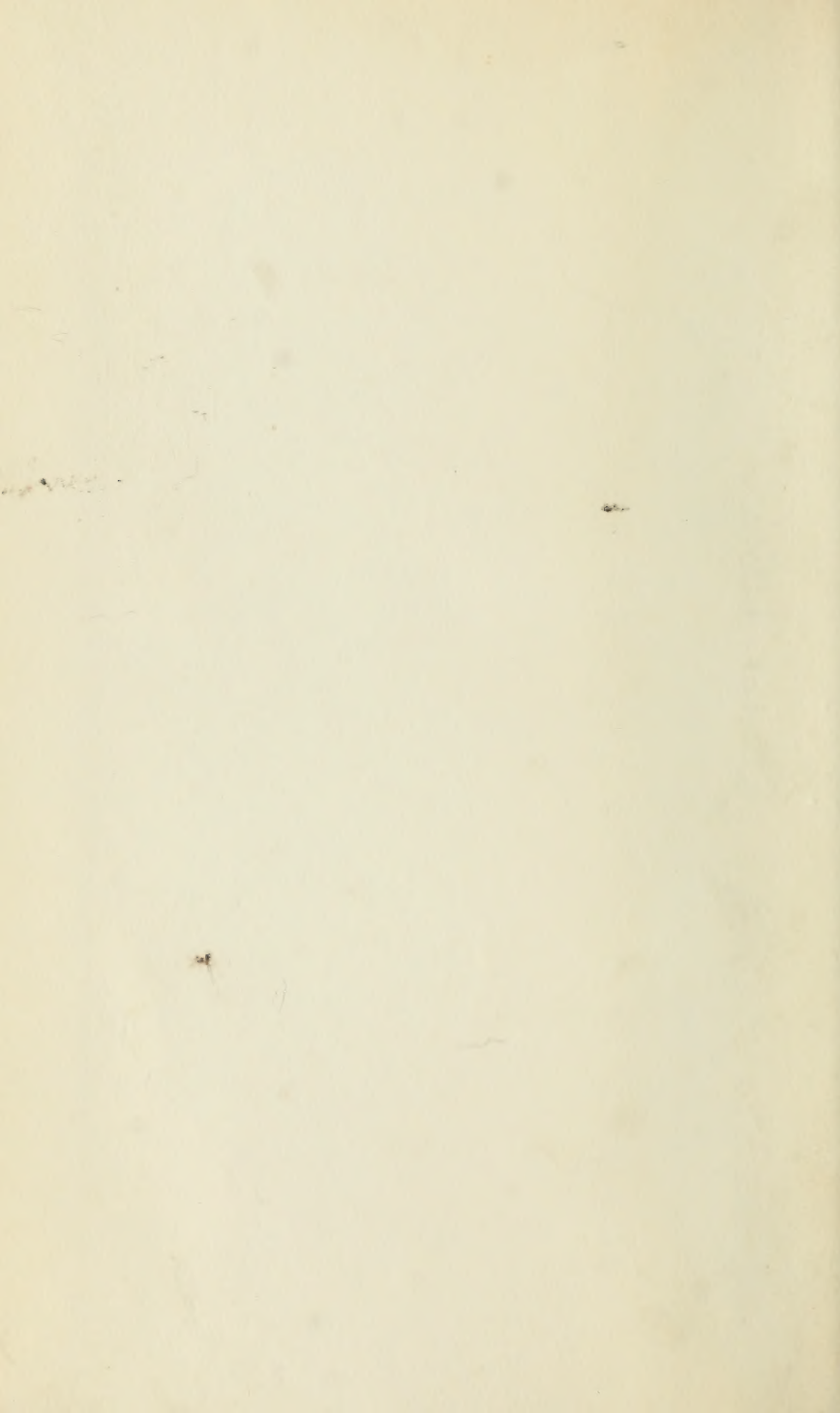




Digitized by the Internet Archive
in 2011 with funding from
University of Toronto



THE
DENTAL REGISTER,

—:O:—

VOL. XXVII—1873.

—

EDITED BY J. TAFT, D. D. S.,
AND
PUBLISHED BY SPENCER & MOORE.

—

OHIO DENTAL DEPOT, 168 RACE STREET, CINCINNATI, OHIO.

INDEX.

Annual Meeting of the Ohio State Society	50
Alkalies	56
Arkansas Whetstone	78
A Trial of Fifty Years	97
Annual Address before the Mississippi Valley Dental As- sociation	155
Address before the Indiana State Dental Association	163
A Diseased Mouth a Source of General Disease	178
New Dental Journal and a Dental College in Spain	179
Address at the Commencement of the Ohio Dental Col- lege	200
Acknowledgment	227
Artificial Dentistry	254
Abrasion—A Case	258
Address	280
Alveolar Abscess	294
Academy of Natural Sciences	303
American Dental Society	309
A New Thing—Nickel	315
Artificial Crowns	326
A Shanghai Dentist	355
A Dentist Fined for Giving Chloroform	394
American Dental Association	395
American Dental Convention	402
Advice to Young Dentists	415
A Scrap of History	433

American Dental Society of Europe	440
A New File Carrier	446
Address—Introductory to the Course of Lectures at the Ohio Dental College	447
A History of American Dentistry and Dental Surgery	486
Artificial Dentistry	491
Address	511
Board of Examiners	96
Brain Stimulants	383
Blood Letting	389
Bromide of Potassium and the Diseases of Dentition	391
Brooklyn Dental Society	484
Corrections	51
Criticisms	76
College Association	97
Cancrum Oris	142
Chemistry of the Mouth	202
Care of the Teeth	220
California State Dental Association	226, 299
Cincinnati Dental Association	331, 353
Correspondence	377
Causes of Spontaneous Ignition	392
Characteristics of English Medical Debates	393
Chemical Affinity	417
Cases and Method of Skin Grafting	430
Causes of Disease	237
Close of the Volume	530
Discussions at the 7th Annual Meeting of the Ohio State Dental Society	87, 118
Dental Jottings	100
Discussions before the Mississippi Valley Dental Asso- ciation	164
Discussions of the Ohio State Dental Society	169
Discussions of the Mississippi Valley Dental Society	211
Dental Reunion	215
Diagnosis	223
Discussion of Offensive Breath	228

Diseased Pulp—Mississippi Valley Dental Association	251
Diagnosis	265
Dental College	271
Don't Anæsthetize a Female without a Witness	272, 306
Dr. Joseph Taylor	291
Dental Convention	307
Dental Meetings	311
Dental Miscellanies	328
Dentistry—Its History, Present Status, Claims and Relations	361
Dental Therapeutics	366
Dental Literature of the Day	370
Dental Fees	375
Death from Inhalation of Chloroform	421
Dr. Chas. T. Jackson	428
Dental Education	444
Dental Association	446
Dental Hygiene	454
Dental Education	458
Died	409
Ethics	52
Editorial 50, 94, 137, 178, 223, 265, 309, 355, 395, 442,	486
Exostosis	278
Eastern Ohio Dental Association	358
Effects of Oxygen and Carbon on Plants	429
Eleventh Annual Meeting of the Connecticut Valley Dental Association	445
Eighth Annual Meeting of the Ohio State Dental Society	489
Education—Treatment of Tooth-pulp	503
Filling Teeth	198
False Teeth	395
Fat and Lean	432
Fifteenth Annual Session of the Indiana State Dental Association	480
Gutta Percha	23, 94
General Causes of Disease	237
General Culture for the Dentist	195

Hymenial	226
Horace Wells	480
Handy Method for Hypodermomy	431
Hemorrhage Arrested	420
Health of the Dentist	528
Illinois and Iowa State Dental Association	228
Illinois State Dental Association, 1873	410
Local Anæsthesia	141
Longevity of the Professions	142
Lime Salts Necessary to Children	185
Lawrence's File Holder	226
Lessons in Physical Diagnosis	228
Large Doses of Chloral	304
Last Words about the Epizooty	428
Legal Intelligence	384
Mechanical Dentistry	14, 320
Mississippi Valley Dental Association	95, 140, 434, 487
Methods and Materials to be used in Filling Teeth	205
Meetings of the Cincinnati Dental Association	228
Mercurius Vivus	40, 256
Microscopic Objective	312
Mad River Dental Society	404, 488
Michigan State Dental Society	398
Medication Made Easy	400
Microscope	357
Mad River Dental Society	523
New Treatment for Exposed Pulp	138
Notice	143
Nitrous Oxide	144
New Jersey State Dental Society	308
New Orleans Dental Association	483
Northern Ohio Dental Society	341
Ohio State Dental Board	50
Ohio Dental College—Spring Course	64
Obituary	97, 98, 141
Offensive Breath	104

One-Eighth Objective	186
Osteophytes	210
Ohio Dental College	225, 311
Operating Chairs	260
Oregon State Dental Society	247
Our Weights	431
Oregon State Dental Society	349
Personal	139, 140, 271
Professional Literature	179
Phosphates	236
Placebo in Dental Practice	297
Phenomena of the Brain	485
"Professional Ethics"	499
Phosphatic Food in Debility	424
Phosphorus in Neuralgia	426
Rubber Dam—its Uses and Applications	9
Remarks on Methylene	457
Raising Giants	427
Rubber—Rubber—Rubber	401
Rose Pearl	356, 403
Repointing and Manufacturing Instruments	21
Radical Observations About Teeth	462
Six Year Molars	19, 72
Semi-annual Re-union of the 7th and 8th District Dental Society of New York	79
Southworth's Operating Stool	64
Stricker's Manual of Histology	286
Southern Dental Society	305
Seventh Annual Meeting of the Ohio State Dental Soci- ety	468
Syncope	405
Saliva as a Cure for Rheumatism	429
Sanitary Value of Light	387
The Best Means of Preserving the Eye-sight of Dental Practitioners	33, 37
Transactions of the American Dental Association	51
The Rubber Contest	54

viii

Treatment of Exposed Pulps	465
The Practice of Dental Medicine	467
The Big Telescope	484
The Administration of Perchloride of Iron	485
Tennessee Dental Association	513
Transactions of the Iowa State Dental Society	531
Transactions of the California State Dental Society	531
Transactions of the Illinois State Dental Society	532
The Table of Societies	532
Vital Force	28
Victories	65

THE
Dental Register.

VOL. XXVII.]

JANUARY, 1873.

No. 1.]

COMMUNICATIONS.

Rubber Dam—Its Use and Application

BY. L. G. NOEL, M. D., D. D. S.

Read Before the Tennessee State Dental Society.

In volunteering an essay on the Use and Application of Rubber Dam, I have not chosen a mean or narrow subject, but one that is worthy of the profound attention of all who are striving to attain higher degrees of perfection in dental operations. I think I may safely say that it is, at this time, claiming the attention of the greater part of the profession, and is being used by all who are making any pretensions to contour and difficult proximate fillings. It would seem a work of supererogation to enter into an argument to prove the usefulness of this great dessicator of carious cavities; yet there are dentists scattered all over this country, who have fought the oral fluids with spunk, napkins, and bibulous paper since the beginning of professional life, who have sadly felt the need of something more perfect than any of the thou-

sand appliances introduced to meet this end, and yet who turn away from the only *perfect* appliance that has ever been invented, and pronounce it worthless. They say it is difficult of application; trying on the patient; that too much time is consumed in its adjustment; that its odor is objectionable; and there is no end to the objections that are raised to it, by those who do not know its value. Some object that it is only applicable to certain cases; and others go so far as to say it is not perfect, and does not meet the requirements in any. That it is difficult to apply in many situations, and quite impracticable in others, no one will deny; but are we to refuse to use it in those cases where it is a blessing, and a boon beyond price, because it is not universally applicable? Are we to lay it aside because our patients are worried sometimes in its adjustment? In excavating we would continue to cut until the cavity was properly shaped to retain the filling, regardless of the pain we give our patient; then why consult his comfort if the rubber is the only means of attaining a perfect result? Then this objection only obtains to a limited extent with those who have had experience in its use, for such skill is rapidly acquired as enables the operator to apply it with ease and facility in all ordinary cases. As to the question of time, no *honest* dentist will permit this to weigh with him a moment. We owe it to our patients to provide ourselves with the best appliances and materials, and to use them to the best of our ability, regardless of time, labor, or expense. But one says, I use soft foil altogether, and therefore have no use for the rubber. To him I would say, your error in using soft foil *altogether* is as great as that of neglecting the dam. I do not pretend to say that soft foil has had its day (a broad assertion made by Dr. C. R. Taft, in the March number of the DENTAL REGISTER), for I believe there are cavities that can be better filled with soft foil than with any other form of gold. But in all mesial and distal cavities, in the bicuspid and molars, in the majority of buccal and crown cavities, and in *all* cases of contour fillings, I am convinced that adhesive gold is preferable. Every man in this society, who makes any pretensions to operative dentistry, ought to know that better operations can be made with gold in all cases of compound cavities in the bicuspid and molars, than can be made

of soft foil; this too without making those large V shaped separations, by which so much tooth structure is lost. Now what man in this society does not know that it would be sheer nonsense to talk of filling with adhesive gold a compound cavity, or any other giving promise of requiring any considerable length of time, without the rubber? This is more particularly true of the inferior teeth, where from the dependency of the parts the saliva will accumulate, and overflow every other barrier. I am aware that many of these teeth are being filled without the rubber, but I have no confidence in fillings that are crowded in such mad haste as the operator must make, where he expects every minute to see the cavity overflow, and his work spoiled: I have heard of gold being welded in contact with saliva, but have observed that all who claim to be able to perform this feat use the dam where they can get it on; thus proving their want of confidence in such welding. I wish to make a few practical suggestions with regard to the application of the dam, and shall endeavor to give such ideas as in my limited experience, I have been able to pick up; trusting I may have gleaned something that will be of use to some one who is seeking light on the subject. The first point inviting attention is the selection of a piece of rubber of good quality, and of suitable size for the case. In regard to quality, I would remark, that the best article now in the market is liable to oxidize and deteriorate, unless kept tightly wrapped, free from exposure to air, and in a cool place. It loses its elasticity and toughness rapidly when exposed to the air. In the selection of a piece some judgment is necessary in regulating its size. For instance, you have occasion to apply it to a second inferior molar, the rubber must extend posteriorly a sufficient distance to preclude the possibility of the patient getting the tongue over its margin. For the superior teeth it need not be so large. Holes may be cut by folding twice, so as to protrude a sharp corner, which may be clipped off with a pair of shears, or by plunging the small handle of an excavator through the rubber, which causes a small piece to fly out, leaving a round hole. This, however, is only applicable to cases where it is wanted over one tooth, owing to the difficulty of punching the holes at exactly the point desired. The best

instrument for punching the holes is one made after the form of a conductor's punch. With this they can be made with well defined margins, and at any point desired. Where there is an uninterrupted arch it is better to put it on two or more teeth. This becomes absolutely necessary in cases of proximate cavities, for reasons that are obvious. If the teeth are widely separated at the necks, the holes must be made wide enough apart to afford a covering of rubber for the festoon of gum between; otherwise leaking will occur at this point. In applying the dam little difficulty is experienced in getting it on the teeth, but it is frequently difficult to retain it in position, particularly if they be a little cone-shaped, having the base of the cone for their necks. This difficulty is overcome by passing a piece of waxed floss silk, shoe thread, or gilling twine, between the teeth. This is the only way to work the dam down between them in many situations, and is always the best way to tuck it under at their necks, which is a point too often overlooked by many who are using it. Often the only way to retain the rubber in position is to apply a ligature to the necks of the teeth to which it is adjusted. It is surprising how so small a barrier as that offered by a slender thread of waxed silk will hold the elastic rubber at bay. In tying the ligature, the surgeon's knot, or clove hitch of the sailor, should be used, as it prevents the slipping of the first knot until the second is made. The ligatures answer the double purpose of holding the dam in position and of tucking under its margins. After tying the ligatures they may be pushed under the margin of the gum, with the end of a burnisher, carrying the edge of the dam before them. This effectually prevents any leakage; I apprehend that some who have failed with the rubber have overlooked this point. The ligatures give the operator free use of both hands, as there is no longer any necessity for holding the rubber on with the fingers of the left hand. Wedges driven in between the teeth after putting the rubber on, answer a good purpose in many instances, and in like manner pieces of spunk and bibulous paper may be tucked between them. They not only hold the dam in position, but take up any moisture that may from its imperfect adaptation ooze through. There are cases in which I believe it is impossible to adjust the dam, but these are

confined chiefly to the wisdom teeth. Their shape is generally very unfavorable to its retention, being in most cases larger at their necks than at their grinding surfaces. Then the absence of any interstice posterior to them, into which to pass the string, and the increased tension brought upon the rubber as we pass back to that region of the mouth, both tend to augment the difficulties of holding it in position. When the tooth is somewhat isolated from its fellow, a slip noose may be passed over it, and a weight suspended to it to keep up continued tension; or if it be an inferior tooth the string may be given to the patient to hold. This plan works admirably in many cases besides the one cited, to which the ingenuity of the operator may adapt it.

Another method of surmounting this difficulty is set forth by a correspondent in the June number of the *Cosmos*, and though I have not yet put it to actual test, I am inclined to think it is a good idea. His method is to stretch the rubber over a stick, or instrument handle, about the size of the tooth, and threading a needle with waxed floss silk, lace the hole all around, coming back to the starting point, when the needle is passed through a loop in the end of the thread. We now have a slip noose, interlaced with, and which may be put on with the rubber. It is now taken off the stick, and applied to the tooth, when by drawing upon the string the rubber is drawn up tightly around its neck. Sometimes we meet with proximate cavities, extending beneath the margin of the gum, to such an extent that it is difficult to expose their gingival margins. This is managed by dissecting away a portion of the gum before adjusting the rubber.

In conclusion, gentlemen, let me urge those of you who are not using this valuable acquisition to our armamentarium to take it up and try it, and my word for it, as you pass from the incisors and canines to the bicuspid and molars, you will acquire such skill in its application as will put a stop to the complaints of your patients, and will so increase your ability to benefit them in your operations that they will call down blessings upon your head and you upon the head of its inventor.

Mechanical Dentistry.

BY E. S. CHISHOLM, TUSCUMBIA, ALABAMA.

Read Before the Tennessee State Dental Society.

Mechanical dentistry, in its most general acceptation, comprises the construction of mechanical appliances as substitutes for the natural teeth. This alone does not constitute the limits of its meaning. It applies equally to the constructing of agents for the regulation of the natural organs, artificial palates, etc.

The substituting of artificial teeth for the natural ones was probably known long before the Christian era, though the exact time of its origin will probably ever remain in darkness. Hippocrates, born four hundred years before Christ, alludes to the insertion of artificial teeth, fastened by gold wire. This art, however, remained in comparative obscurity up to the sixteenth century, when Eustachius flourished as an anatomist, and published perhaps the first work in dentistry. The art of printing having been introduced from this on, it received increasing attention. In the year 1774 the first porcelain teeth were introduced. The advantages of these over those carved from the bone and ivory, and the teeth of neat cattle, was discovered by a French apothecary; soon after which Chemant, a distinguished dentist of Paris, obtained a patent through Louis XVI. It was long after this before they came into general use. From this time forward knowledge in this specialty has been increasing in the mechanical as well as the operative department up to the introduction of cheap patent materials as substitutes for the finer metals in the former department. Since then my observation warrants the conclusion that it has been, and is gradually on the wane by the better members in our cause.

It was formerly passingly respectable for one to be a good mechanical operator, since this department required of him to be in every way familiar with the science of chemistry, metallurgy, and the collaterals, to this department, etc., but oh, how changed! Now mechanical dentistry gives the learned no advantage over the unlearned. These itinerating charlatans, who never spent one dollar or sacrificed a day's time to fit themselves for the profession, and who are able to pay for

a right to use rubber, are estimated on a par by the populace with the student and practitioner who has devoted the youth of his life, and expended much of his hard earned means to prepare him for his calling. Like an incubus, the former visits his destructive influence by feeding from a profession which the later may have expended years in building up.

As one has said, invention has given to dentistry no material more useful than vulcanite; none the use of which has proved more injurious. So dentistry has suffered its severest loss through its greatest gain.

Cheap materials bring common operations, since they are not sufficiently remunerative to the skillful. Their ease of manipulation places them within the reach of the uneducated pretender. Work characterized by comfort, durability, and artistic appearance, cannot so favorably impress the public as the show window exhibitions of high polish and regularity of arrangement, which probably possess not one element of these important essentials. This condition of things will not be improved until the people are educated by some means to discriminate the difference between good and bad operations. Hence the importance of the genuine operator marking his work with these distinguishing characteristics, and by no means allowing himself to become discouraged, that any branch of the cause may deteriorate.

But to draw more closely to the subject before us. The field of mechanical dentistry is so extensive in its limits, and of so much diversity, that I will ask to be pardoned for digressions, and failing to notice in regular order the various points in the construction of artificial dentures, since too much of this is common to us all. I will therefore mention a few practical points, which I have deemed worthy of notice.

The preparation of the mouth for artificial teeth is of no minor consideration. By no means should there be a sacrifice of any natural organs, unless they be few in number, and their remaining should materially effect the ultimate wearing of the artificial set. I will mention three or four such conditions.

1st. Should we find a few front teeth only remaining, and especially in the upper jaw, which are much abraded, antagonizing teeth good, their extraction would be indicated. The

teeth to be substituted required to be of some length, and would be so short as to render them weak and unserviceable. Were you to make them longer they would not appear well, would discomfort the wearer in prehension and mastication, since his custom was firmly in the use of the natural teeth.

2d. Where the entire lower set and upper molars are good, requiring the insertion of the front teeth. In such cases the molars are generally much worn, and when touching the lower, may bring the upper alveolus nearly, if not quite, in contact with the lower front teeth. It would here be better to extract the molars, and supply the whole upper jaw with teeth. In similar cases where the prominence of the superior alveolus is strictly parallel with the lower teeth, but the right or left side is higher than the other, is a great source of inconvenience to prevent the teeth appearing longer on one side.

3d. When the upper molars and bicuspid are to be supplied only, it is sometimes a matter of much difficulty, since the masticating on either side may break up the suction—the only means of support. The presence, too, of the front teeth, will greatly impair its sticking quality. If, however, the gums are favorably shaped, and our patients persistent in wearing, success may be attained.

4th. If scattering teeth only in the front of the upper or lower jaw remain, it is better to remove, for these reasons:

1st. It is difficult to adjust the artificial gum accurately, so as to prevent detection.

2d. There is always some irregularity of position and direction of teeth, rendering the taking of a good impression difficult.

3d. Difference of color.

4th. The probability of their early loss in contact with the artificial.

Apart from these exceptions, I am in favor of restoring and preserving every natural tooth that our skill may possibly direct.

Since my experience is somewhat limited as to the new modes adopted as to time of insertion, I can say but little on this subject. My experience favors the awaiting the gums to heal, and a sufficiency of absorption as not to show any grove

in the alveolar ridge, and until sharp processes disappear. I say this, duly recognizing the fact that suction arrests absorption, and pressure of friction increases it. Yet as most other rules it has its deviations. I have inserted plates upon newly healed gums, with good suction as permanent sets, that very soon, though patients wore night and day, required replacement. On the other hand, I have lost a number of permanent sets by the temporary remaining comfortable. I have also inserted teeth as soon after the removal of the natural as an impression could be taken, and teeth inserted, which are to-day comfortable. In one case the teeth were inserted as soon after the extracting as they could be made, but the mouth continued to swell for five days, when I inserted anew, with but little better result.

With these apparent contradictory indications the only way to reconcile them is to suppose that the same causes differently affect individuals influenced by age, temperament, and condition of health at the time. My experience admits the conclusion that in youth or health absorption is much more rapid.

Next in order we will consider briefly the taking of impressions. Formerly many materials were used for this purpose, and none were entirely subservient to the requirements. Yet plaster of Paris approximates more closely every exigency than any other known substance, and for this reason is in almost universal use. It is not, however, entirely free from objections; the most noticeable is its shrinking in process of crystalization. In using it for impressions I use salt water, which causes it to solidify much quicker. I use as little plaster as I can, having previously prepared a thin film of wax, attached to the posterior palatine border of the cup, to prevent plaster escaping posteriorly. In introducing the cup, previously directing patient to *hold the head erect, to be ready*, and when introduced *to breath through the nose*, I would prefer my patient to be seated in a low chair. The cup when introduced should be pressed upon the posterior part and the anterior gently brought in place, which will press all surplus to the front, when sufficiently hard to remove.

When partial sets are to be substituted, it often becomes necessary to oil the impression cup first, and when sufficiently

hard to break with a smart fracture, pull loose the cup, and with a suitable instrument cut the plaster so as to have it fracture, causing the least amount of breaking in its removal. These pieces may then be replaced in the cup with nearly a perfect adjustment.

Some little trouble having been experienced many dental practitioners to prevent the rubber, when manipulating with this material, from pressing its way between the teeth or gums; we will mention *our* mode of *prevention*. The teeth should be ground proximally with their surfaces in contact. If any deviation from this, it should be in favor of their touching on their front or outer surfaces, giving the teeth the necessary proximal distance and inclination. Then with a round edged stone grind from the posterior of the gum a bevel of of an angle of thirty degrees, so that the space which will be in contact with the rubber will form a V shape. Of course the grinding should not be sufficient to weaken the attachment of the pins, or to very nearly approximate the showing surface of the gum. Being then sunk in flask, and base plate removed, fill the spaces with oxychloride of zinc or plaster.

The artistic appearance of the teeth, when inserted, chiefly depends on what we term the "bite." It is here the length, size, and inclination are indicated. In this the operator's skill is taxed to the highest to rightly diagnose the deficiencies, and with an artistic eye supply the needed portion, arranging the teeth with studied negligence, and thus restoring the "*human face divine*." This is done, too, not disregarding the attributes of utility and comfort.

One of the greatest faults, with many young practitioners, is the arranging the teeth to describe a part of a circle which, is very far from nature's order.

The cuspidate should be a little prominent, the bicusps immediately behind them, with the outer cusps nearly in a direct line with the cusps of the canine and first molars.

This rule is not invariable, however. With some patients not near so much is required as with persons of round features, and broad face and jaws.

The incisors in persons of strongly developed features may be a little longer and more prominent than the laterals.

As a general rule we too greatly fear the rendering conspic-

uous of our work. Some persons in earlier life unfortunately lose some of the natural teeth, which causes a diminution of the jaw, when much prominence is necessary to restore the normal appearance.

Now, in conclusion, allow me to suggest to you, what will prove consoling to patients, and give them much satisfaction—be shure to inform them that work warranted always breaks—that work paid for always sticks.

Six Year Molars.

BY L. W. MUNHALL,

Every dentist cannot but have observed what a large per cent. of these *most* important teeth are absent from the mouths of adults, and are constantly being sacrificed. This condition of affairs is attributable, as I think, to two causes: First, the ignorance and indifference of parents; and second, the ignorance and indifference of the dentist.

Respecting the first cause, I think the parent *almost* wholly to blame. I say *almost* wholly, because I think the dentist is partially in many cases, and largely in some.

As a profession, we are educators in a very important sense. What do the masses know of the advances made by the profession, except as the profession communicates such information to them? How often do we hear it said, "I thought that tooth too far gone to be filled?" "I didn't know a tooth that had ached could be filled?" and other statements of a kindred sort. And respecting this very matter under consideration; when the parent brings the child to the dentist to have the six-year molars extracted, because they ache, and are scolded for their carelessness in letting the teeth get in such a condition, is it not the almost universal reply, "I thought those were first teeth, and that others would come in when these were removed." The number of persons rightly informed concerning this matter is very few. Of course there is a large class that cannot be reached; but all who are our regular patrons may be fully instructed, as well, also, in a measure, those who are transient and irregular. No parent or guardian should be allowed to take a child from our offices, without having their attention called to this matter, and, if need be, instructed concerning it.

And now, respecting the second cause: Did you ever hear of a dentist extracting one of these molars, and assigning as a reason why it might be removed without injury, that "the teeth are crowded, and if extracted, the other molars will move forward and occupy the space?" I have, and in a very great many instances; so often, indeed, that I am disposed to think it a very common thing for dentists to talk thus. The statement may be literally true, *per se*, in a great many cases; but a dentist who would give such an opinion must be either ignorant or indifferent. Let me give a case.

Herbert E——, aged 12, came to my office, and represented that he had been getting some teeth filled by a certain dentist; and, that he—the dentist—wanted to extract the inferior six-year molars; but that his father had objected, and directed him to come to me for my opinion in the matter. I made a diagnosis, and found the teeth very far gone with caries, and the pulps entirely devitalized. There were no indications of abscess or suppuration. The boy was an unusually bright one. He had a splendidly developed head, the frontal and temporal bones being noticeably prominent. The superior maxilla was of good size and shape; but for some reason the inferior was disproportionately small—the chin being very much retired, so much so, that the inferior incisors closed inside the superior fully three quarters of an inch. Of course the lower teeth were very much crowded; and, had these molars been extracted, there is no doubt but that the space thus made vacant would, in time, have been occupied by the other teeth, even as the dentist who wanted to extract them had said. I afterward removed the diseased bone, treated the teeth with applications of a solution of carbolic acid and tinct. of iodine, and filled them with gold. This was about a year ago. I saw the boy a few days since, and the teeth are doing fully as well as I could wish.

Respecting this case, I hold that by reason of the contracted condition of the inferior maxilla there was an especial reason for retaining these teeth; but there were good and sufficient reasons for retaining them, even though this condition did not exist. It is always perilous to the contour and symmetry of the maxilla to remove a permanent tooth during the period of bone development; therefore, these teeth,

as well as all others, should be retained as long as possible.

There are some apparent difficulties to a universal practice of this sort, of which I shall name but two.

First. There are certain systemic conditions that would seem to justify the practitioner in making no effort to exert his saving powers. Take, for instance, a case where the teeth are imperfect in their structure, where there seems to be almost an entire absence of bone-making material. By reason of this condition they decay rapidly, and are so frail and soft they could be cut to pieces easily with an excavator. Now, in a case like this, he might not hope to permanently save; yet he may almost always be able to retain the teeth until the period of physical development is complete. I shouldn't hesitate to try, even though the patient hadn't enough phosphorus in his system to keep him in toe-nails.

The other difficulty is the inability and unwillingness of parents to remunerate the dentist for his services. We love to talk of the dentist as a benefactor. It's a very easy matter to be a benefactor when one is pecuniarily rewarded for it; but, I take it, that that member of our profession is a true benefactor who, rather than let a child suffer because of the ignorance or sordidness of its parent, would render it a service without remuneration. It is the province of the dentist to save, not destroy; and to prevent destruction as far as possible.

If this article will be the means of causing a single member of the profession to be more faithful to his trust, I shall be rewarded for the labor of preparing it, for this is the object had in view.

Repainting and Manufacturing Instruments.

BY B. BANNISTER.

Read Before the Michigan State Dental Society.

The methods here advocated, and rules recommended will be confined to manufacturing cutting instruments, and keeping them in order. Repainting or manufacturing demands of the dentist a practical knowledge of steel, in annealing, forging, hardening, tempering, polishing and beveling.

Vol. xxxvi—2.

What is steel?

Steel is refined iron, with carbon in proportion, of from one-half to two per cent., added to other compounds, and manufactured without carbon, with these we have nothing to do. The remarks made, the rules recommended and methods advocated, will be confined to the carbon or commercial varieties, including methods of manipulating—and principles only so far as they have proved their worth and value to the dentist. The microscope reveals that in the fracture of steel the finer the quality or more carbon steel has, the smaller are the crystals and their always taking a parallel position, according to the force given, in manufacture, from the hammer.

It also proves that under different methods of manipulating, with the hammer and temperature we may benefit, or easily destroy steel. In giving good steel a high degree of temperature, a disturbance and irregularity is occasioned in position of the crystals, or the parallelism is lost, and approaching the form or position of the poorer grades, when the crystals loose their regularity, and appear in groupes or bundles, crossing each other, and of larger size.

ANNEALING.

Steel is hardened by heating, to a certain temperature, and cooling quickly; annealed by heating to the same temperature, and cooling slowly.

Two methods are commonly used: Heat to a low red, and cool in the air, charcoal dust or ashes will answer, or heat to a low red and cool, till the color approximates the dark red, and then plunge into water.

By either method we obtain a soft condition in steel.

FORGING.

In forging by hammering (by condensing the crystals) makes it still more fibrous, and less crystalline. The fibrous condition, gives the best cutting edge.

The more the crystalline the texture, the greater the elasticity. An application of this rule, has a practical value, in both the blade and shank, in some forms of our smaller cutting in-

struments, or upon any that require, the highest elastic nature with the best texture for an edge. With a proper use of the hammer, and proper temperature, we condense and elongate the crystals, improving all grades of commercial steel for cutting instruments. Heat expands, and the tendency is to displace and restore the true, crystalline form. It proves this, if we gain any benefits by condensation in our steel. We must observe care in heating to forge or harden in using the lowest practical temperature, and not destroy the fine grain, essential to the best cutting edge.

An even degree of force in blows from the hammer should be given, to obtain uniformity of condensation. By continued hammering when steel is cold, the fibrous form is broken up and fractures produced.

A polished surface will take a harder and more uniform temper, with the same degree of heat, than a rough unpolished one, with the advantage of giving a better distinction of color to guide in tempering.

An even degree of heat should be given to have uniformity of hardness. In all edge tools harden thick and grind the edge afterwards. Heat, if necessary, to give proper hardness to the thicker parts. If the edge was formed before hardening the steel would burn in the thinner portion, and by loss of carbon would be converted to iron. Steel undergoing oxidation by heat, sufficient to harden, loses carbon and should be protected. By warming the surface or point, and coating with some preparation for that purpose, soap or borax will answer. A surplus of soap is to be avoided, as by taking fire, more heat will be created than is desired on the finer points. An advantage by the use of borax is, the heat is more evenly held and imparted to the steel, till the hardening bath is reached.

The temperature required to harden increases with the greater amount of carbon in the steel. In hardening we are dealing with carbon in iron. Iron cannot be given any degree of hardness till carbon is added to it. The principle if correct shows the absurdity, of the one color rule, "cherry red," to always govern in the temperature, neces-

sary to harden the finer qualities of steel. By good primary forging, and care in heating to forge, and harden, the best results may be obtained at a lower temperature or color. By an excess of heat to harden, steel is made brittle, which is mistaken generally for hardness. By experiment such steel will be found more subject to the action of the Arkansas wheel, (a better test than the file) than if hardened at a lower degree. The success in working steel is in having a good quality, and keeping it good, in retaining the carbon and condensation by keeping down the temperature, to a practical limit in forging, in not breaking up the fibrous character, by an improper application of the hammer.

Steel hardened in water requires more heat than steel hardened in brine or any of the metallic solutions.

The greater the conductivity and density, the quicker the heat is taken from the steel. A low heat quickly absorbed, will make steel as hard as a higher heat more slowly chilled.

A practical test of this rule will convince us of the worthlessness of many of the patent tempering fluids over plain soft water. If we give steel the same degree of heat, for the different baths, we have different degrees of hardness, in proportion to the relative conducting properties of the hardening bath.

What we desire in any bath is a liquid that will rapidly take away the heat; with water the temperature required, approaches a degree, at which, unless care is observed, harm will be done the steel. In all mineral and saline solutions we may diminish the heat, but have no additional hardness, and are more liable to oxidation. In the tempering of steel after hardening, the following table indicating, by the color or oxidation of the surface, is perhaps our truest guide.

" Very Pale	Yellow	-	-	-	-	-	430	Fahrenheit
	Straw	-	-	-	-	-	450	"
	Yellow	-	-	-	-	-	470	"
	Brown	-	-	-	-	-	490	"
Mottled	Brown	-	-	-	-	-	510	"
	Purple	-	-	-	-	-	530	"
Bright	Blue	-	-	-	-	-	550	"
	Blue	-	-	-	-	-	560	"
Dark	Blue	-	-	-	-	-	600	"

Many of the colors we will not observe in our manipulations. Neither are they necessary, still we should give more attention than is generally done to this division. Very pale yellow and very pale straw, are our most useful colors to be left, or drawn to for all cutting edges. It is only by careful observation in good light, with the surface held upon bright steel, to compare with, that we can distinguish with accuracy the finer points in temper. Thus, is a practical worth easily detected upon the wheel or hone, between very pale straw, and yellow 40° difference in temperature, and a manifest difference in hardness.

Instruments with unequal degrees of thickness should be equally heated to harden, to avoid springing and give an even degree of strength or flexibility, on parts requiring it, when tempered.

In letting down or tempering our larger instruments having direct force, or an angle not to exceed 45° , the purple or bright blue color will be sufficient. The same class of instruments with full curve, or nearly so, will demand a still lower temper, bright blue or blue.

In the smaller straight, or instruments between 45° , and direct, bright blue will be sufficient.

For full curve or angles, approaching full, blue will be the most serviceable as also for all our smaller excavators, and hoes; dark blue has a practical value only for nerve broaches.

Different instruments require a temper suited to their form, and use. In all intermediate stages from full hardness to the lower degrees, we must be guided by form, strength, curve, and the use we subject them to.

In the polishing of steel the remarks will be confined to repointing and keeping in order of finished instruments. The method usually followed for reducing in size with files and a series of emery wheels, burnishers, etc, to produce a good surface, demands too much time, and labor. A good lathe devoted to the operating table, for repointing and keeping in order is necessary, made for the workmen to sit, and not stand to work.

The following also are requisite:

- 1 4 inch Very Coarse Corundum Wheel
- 1 3 " Turkey Stone Wheel
- 1 3 " Arkansas " "
- 1 4 " Scotch Water Stone Wheel
- 2 5 " Felt Wheels
- 1 Small Hammer
- 3 Polishing Sticks
- 1 Blowpipe, Anvil, and Lamp

I would prepare the polishing sticks by gluing well hammered sole leather to two sides. $\frac{5}{8}$ inch wide $\frac{1}{2}$ inch thick—and 6 or 8 inches long for working surface, with handle, is a convenient size.

Use flour of emery, and oil upon one side. The opposite side prepare by giving a thin coat of glue, and press in No. 3 Emery, a couple of grades coarser than the flour.

The second stick of the same size, should be prepared by gluing the best French felting to two sides, using diamantine and oil, upon one, and the dry diamantine powder upon the opposite side.

The end would be of the same form, with a slight taper with a sawed slot in the end opposite to the handle, to receive emery or sand papers, cut to the form of the stick by turning back with a ferule, to slide upon, and hold the papers flat and firm to the surface.

The 5 inch felt wheels would be given the same grades of emery and preparation as the emery polishing stick.

The value of felt emery wheels is in producing a surface rapidly, with slow speed; a soft flexible working surface always conforming to any inequalities—and if not running perfect, having a continuous and constant action upon the surface operated upon.

Without the wheel is elastic, it necessitates being chucked perfectly, and a speed not attainable with the majority of dental lathes.

The emery wheel or stick will rapidly remove file marks. The flour of emery wheel, removes any roughness left, by the first process, giving a surface for the burnisher or diamantine. Would burnish all soft and complete the finish with the diamantine buffer on all hardened parts, and in point o

time need not exceed five minutes on any single instrument.

The emery paper stick, will be serviceable on portions inaccessible with wheels or the buffers.

In repointing excavators, drills, and making nerve broaches, we may discard the use of files nearly and emery in full by the following method:

We will repoint a hatchet excavator, without annealing. I would save time and grind more smoothly. Hold my point parallel to the direction of the revolution of the corundum wheel, and when sufficient substance had been removed, would take to the scotch water wheel, and with a few revolutions have a surface ready for the burnisher and diamantine. Anneal the point, flatten one side on the Turkey Stone Wheel; bend the point to the ground side far enough back to have when finished a round shank. Forge the blade, using the hammer evenly, and thoroughly harden, temper, and remove the oxidation by immersion in dilute sulphuric acid (to keep the surface) a few seconds, have a surface ready for the finishing process.

A continued use by this method forms a series of grooves in the face of the Corundum and Scotch wheels, and with little attention in keeping the sizes graded, serve for forming many favorite patterns difficult to make with the file, and impossible at all times to have with the same graded uniformity and perfection.

Nerve broaches may be tempered larger and ground perfectly, ensuring a good temper, and an easy and quick method in an emergency to make what we desire.

The object of the bevel is to form the edge. In principle its action is that of the wedge. The force is first impressed on the point of the edge or wedge to divide the substance. The character of the substance to be divided or removed whether hard or soft, demands for the best productive effect and endurance to the edge, certain angles." The bevel of all cutting instruments and drills designed for enamel or dentine, should be formed with the angles when applied to the work, as nearly parallel as possible to the surface operated upon."

How is the bevel or edge best obtained and preserved?

By discarding from the operating table the hone and using the Arkansas and Turkey wheels on the lathe. If we will examine with a glass our best efforts at honing, we may learn a good practical lesson.

The worth of many favorite instruments is in correct application of the bevel.

The hone is objectionable from the difficulty of attaining correct results, and because of the skill required and the time consumed in its use—it is almost impossible to give the same bevel at different times.

With wheels better results are obtained. Care and not skill only is necessary, and time is saved.

The obtuseness or acuteness is often to be changed in the same instrument to render its application serviceable for a particular point; this is quickly and perfectly done by the use of the wheels.

It is not economy for the dentist to manufacture, neither can we afford to be ignorant of mechanical skill, sufficient to keep our instruments in order, or to make perfectly good practical forms for our own use. Our conception of what we desire many times, and not that we have to use might be realized with a little preparation and effort at making correct pattern instruments, for the manufacturer to duplicate for us. At the chair we detect quickly the little faults and learn to prize the intrinsic worth of many instruments. It is here we can study defects, and forge in our mind, forms to be duplicated by the manufacture.

Vital Force.

BY GEO. WATT.

Read Before the Ohio State Dental Society.

A lengthy disquisition on the correlation of forces might, with profit, precede the discussion of this, but neither time nor the individualized portion of this force behind the pencil will permit. Suffice it to say that vital force, in our present state of existence, is the result of chemical force, or at least of chemical action. It is not proposed here to discuss the power of pure or disembodied spirits, but to consider

man as we find him, composed of a physical body and a spiritual mind, each influencing the other as to development, manifestation, progress, etc.; the mind in this state of existence being able to act or give manifestation only by and through the body.

From the dawn of existence a battle rages in the human body, and ceases only when what is called death closes the conflict. The combatants are nutrition and respiration. The one builds up the body; the other burns it down; and in this conflict all that we know of vital force is developed.

Nutrition, or the builder, *creates* nothing. It appropriates and assimilates to its uses matter already in existence. And as matter is always governed by laws, it must use it in obedience to law. It is as much bound by chemical as by physical laws; and who would think, for a moment, of nutrition being carried on regardless of gravitation, solubility, hardness, softness, and the like? It is an error far too common to regard vital force as something wholly above and independent of chemical action; and those who do not go quite so far, speak of vital force *modifying* chemical action as if such a thing were unique in nature, forgetting that gravitation, cohesion, etc., also modify it. All this amounts to is that matter is obedient to law—that each law modifies all the rest, or, in other words, that they all harmonize, which is but a truism, for they are all laws, not of nature, but of nature's God.

Nutrition then builds up our bodies in obedience to chemical affinity, and all the other laws which govern the materials composing it, mind, or will-power, being one of them.

Leaving to the general physiologist the details of the process of nutrition, let us pass from the builder to the destroyer.

Respiration is the function by which oxygen is conveyed directly to the blood, and oxydized matter directly from it. It has also other incidental uses not to be noticed here. In nutrition oxygen is extensively used, as it is a prominent constituent of organic bodies; but the oxygen introduced by respiration is not assimilated—does not help to build up tissue, but always to destroy it.

The red corpuscles receive and carry the oxygen taken in by respiration. Their ability to do so seems to depend on two of their component substances, iron and "phosphorized fatty matter." The special office of iron in this function was discussed in a paper read before this society two years ago, in which it is suggested that this element cannot carry more oxygen than is used in the functions of organic life, leaving voluntary motion and thought to be still accounted for. The phosphorized matter being so highly combustible (oxidizable) it has been thought marvelous that the corpuscle can carry free oxygen without being itself destroyed by oxidation. But a little observation will find analogous cases. Iron has an affinity for active oxygen strong enough to decompose water, and even to take fire in the atmosphere if divided to the proper degree of minuteness. But iron may be suspended in an atmosphere of pure oxygen for months without even rusting. The explanation is that oxygen has an active and a passive condition, in the latter of which it manifests but little, if any affinity for anything. Iron also has its two conditions. When passive it will remain bright, even in a solution of nitric acid. The same is true of phosphorus, which in its passive state is not combustible, in the ordinary acceptance of the term.

Now, let oxygen have its passive state, and we are no longer surprised that the corpuscle can carry it, especially if its phosphorus be also passive.

Oxygen is changed from active to passive in several ways. As a constituent of the atmosphere the great bulk of it is passive. If otherwise, its local effect on the air passages and the skin would be disagreeable and disastrous, as is seen in the prevalence of catarrh and influenza when ozone, which is only active oxygen, is especially noticeable in the atmosphere.

Electricity passing through passive oxygen renders a portion of it active. This accounts for ozone, or active oxygen, in the atmosphere.

When vapor is condensed the heat of vaporization or part of it at least, is changed to electricity. It is in this way that

the formation of clouds causes electric phenomenon. When the atmosphere for a time has been unfavorable to the conduction of electricity the clouds are seen with well-defined borders, which indicates a great disturbance of the electric equilibrium. In this condition myriads of infinitesimal sparks of electricity pass through the air, rendering a part of its oxygen active, or as commonly expressed, forming ozone. A part of the ozone is neutralized by local action along the air cells of the lungs, and there obeying the law of gaseous diffusion passes to the blood, and if not exhausted by changing the protoxyed of iron to the sesquioxied the residue probably remains active, and therefore not obedient to the will, thus explaining the involuntary twitchings, the fever, irritability, and general unrest incident to living in such an atmosphere.

In the paper already referred to I called the oxygen not associated with the iron in the corpuscle, "oxygen of reserve." For the best health this should be passive till rendered active by the will, as the corpuscle gives it up in obedience to the same will power.

By the oxidation of tissue, as here feebly described, we have the manifestation of vital force both voluntary and involuntary. That the voluntary and involuntary may have proper relations to each other, and to the ends for which we are created, several things are necessary. The oxidized matter must be duly carried out of the system. This is done in part by the skin, kidneys, etc., but mainly by expiration. In other words the blood must not be forced to carry effete matter. The corpuscle must have its due amount of iron and phosphorized matter, and to retain these in proper vital connection of course all its other constituents must be normal.

It is almost impossible to conceive the voluntary power of a well-formed human body where the corpuscles carry their full proportion of oxygen of reserve in complete subordination to the will. The oxygen of reserve is laid in while we sleep, and many things interfere with its proper accumulation. And even if the corpuscles have a fair supply of it, they may not be able to hold it in obedience to the will, as is

manifested by restlessness of body and fretfulness of mind, the oxidation of tissues being fitful and irregular, and the manifestation of life force being equally so. Now, if by any means the corpuscles can be rendered able to hold the reserve oxygen in subordination to the will this irregularity of life force will cease. Tea and coffee are used for this purpose, it being common for authors to state that they "arrest the waste of tissue," without giving us a hint as to how they do it. Opium, and perhaps tobacco, have a similar effect, while alcohol seems to act in the opposite direction, setting free much of the oxygen which should remain in reserve, giving rise to irregularity of action both of mind and body, resulting in the exhaustion observable at the close of a drunken debauch.

The presence of alcohol in the blood may also cause irregular manifestations of life force in another way. Even if the reserve oxygen in the corpuscles obey the will it is likely to act on the alcohol as on anything else; for do we not know that alcohol is highly combustible—that it has a strong affinity for active oxygen? Let us suppose that a corpuscle, in obedience to the will, liberates oxygen to combine with some tissue in the brain for the purpose of developing thoughts of paternal kindness, but the oxygen finds this tissue soaked in alcohol, and combines with both; is it strange if the father *thinks* of his child in obedience to the oxidation of the tissue, and *kills* it in obedience to the oxidation of the alcohol? All that the will has to do with such a transaction is in the previous taking of the alcohol, and in thinking who to kill. And this explains why the *will* of the habitual "moderate drinker" can give him no aid in arresting his progress toward the career of the confirmed drunkard. The only way he can produce action of any kind by will power is by rendering active the reserve oxygen of the corpuscles and setting it free, when, if it finds alcohol at its point of freedom, instead of the normal tissue the action is abnormal—not in obedience to the will, not in harmony with, but wholly outside of physiology.

The reader may regard this article as somewhat dogmat-

ical. I have only given my *thoughts* and *opinions* without the sycophantic "I opine," or "it seems" in each paragraph.

The reader can think for himself, if these thoughts do not suit him.

The Best Means of Preserving the Eye-Sight of Dental Practitioners.

BY. I. WILLIAMS.

Read Before the Ohio State Dental Society, at the Seventh Annual Meeting, December 4, 1872.

No subject can be of more practical importance to the dental practitioner than the preservation of distinct vision for the longest possible period of time.

The general medical practitioner may pursue his vocation with a fair degree of success, and satisfaction to himself and his patients, even after the sight has become very greatly impaired by age or otherwise.

The minister may pursue his calling with brilliant success though total darkness enshroud him. Who has not read the story of "the blind preacher," and the magical power of his eloquence?

With the dentist the case is entirely different. To him a good clear eye is of primary importance, and without it every accomplishment in knowledge and skill will be useless. How we may preserve the functions of this most important and wonderful organ should engage our most careful attention.

Any theory of preservation that ignores or in any way overlooks the general health, and vital and nervous force, is, sadly defective if not entirely erroneous. It is true that the eye may be injured by an imprudent act or course of conduct while the general health may be good; but it is not true that a course of living which tends to break down the general health, and which cripples the vital functions, can be pursued without serious injury to the eye as well as to every other organ of the body. Chronic derangement of the stomach produces that very troublesome disease called *muscæ volitantes*, in which the patient sees flies, motes or little clouds that seem to be moving before his eyes. Correct the derangement of

the stomach by right living, and the flies and moths will disappear.

Dentists have had frequent opportunities to demonstrate that a diseased condition of the mouth and teeth may produce various forms of disease of the eye. As well might we expect to find the branches and leaves of a tree in a vigorous and flourishing condition while the trunk and roots are partially dead and dying.

Whatever then will tend to build up a vigorous and healthy constitution, tends directly to preserve and prolong the sight.

The habit of early rising is said to be of great advantage in preserving and prolonging distinct vision. It is a well established truth that sudden changes from darkness to light or from light to darkness are injurious. The individual who rises late and suddenly emerges into the clear strong light of day, certainly inflicts a serious injury upon the delicate structures of the visual organs. Were the sun to burst suddenly upon us in his meridian splendor, instead of making his appearance as he does, universal blunders would soon ensue. The design of nature may generally be inferred by the way in which she manifests herself. What can more clearly indicate design than the very gradually increasing light of day?

An octogenarian eminent for his good common sense, and who never had occasion to wear glasses, attributes the remarkable preservation of his sight to his constant habit of early rising.

The dental practitioner should be careful to have his operating window facing the north. He will then not be annoyed by the sun shining in his face, or by its rays being reflected from his instruments into his eyes.

Perhaps no one thing more generally and seriously injures the eye of the dentist than straining to secure clear and exact vision. This practice persisted in will sooner or later ruin the best eye.

Let it be settled that by position of patient or such other means as may be necessary, you will secure a clear and distinct view of the point to be operated upon. An intelligent

patient of mine once observed, after I had placed him in a position not the most agreeable, "I can stand it; it is only an occasional thing with me, with you it is constant." That remark has done me much good.

Another difficulty peculiar to dentists is the necessity of overtaxing the powers of the eye and nervous system in the performance of the large and complicated operations they are now called upon to make. Holding the eye upon a single point till there is a sensation of exhaustion and indistinctness of vision, is exceedingly injurious. Since the introduction of the rubber dam this inconvenience may be very greatly overcome. By stopping in the midst of these large operations, and changing the position and letting the eye rest on other objects, the difficulty may be relieved if not entirely overcome. An operation should not be commenced unless the dentist feels certain of its completion before the light grows dim in the evening.

Some dentists, by a foolish and very injudicious habit of bringing the eye unnecessarily near their work, have become permanently near-sighted. This point should be carefully guarded. Indeed every man whose occupation requires very fine sight is liable to the same difficulty, and care should be taken to correct the eye by viewing distant objects as much as possible.

The habit of looking through eye-glasses having short focal distances with one eye tends to shorten the focal distance of that eye. It is often necessary for the dentist to use a glass that magnifies, but would it not be better to use spectacles that magnify, then both eyes will be brought under the same optical influence. A jeweller of my acquaintance told me that he had nearly ruined his eyes by the constant use of a single glass.

The eye is very greatly effected by mental influence. Joy and grief play no unimportant part in preserving the natural form and function of the eye, or of flattening its globe and impairing vision. The former aids wonderfully in perpetuating distinctness of vision to a green old age, while the latter exerts a potent influence in causing "those that look out of the windows to be darkened." The dentist who by dili-

gence has made himself so proficient in his specialty as to give good and permanent satisfaction to his patients, and who by his honorable and gentlemanly deportment has secured the good opinion of his patrons and of the community; who by his industry and frugality is able to earn a competence for the comfortable support of himself and family, and who by his kindness and goodness of heart has made a little paradise out of his home, to which he may retire for enjoyment and recuperation, has done much toward putting off a little longer the evil day of spectacles.

The eye should be kept clean by frequent bathing. Immersing the face in clear water not too cold, and rinsing in the morning, then opening and shutting the eyes a few times, is a good practice. The eye is thus cleaned, and if there be acrid humors they are neutralized.

The eye needs and should have an abundant supply of pure air. No pestiferous odors should be allowed to remain in the dental office. Those who live in dark, damp apartments, where the air is loaded with smoke and other impurities, are usually troubled with sore eyes and indistinctness of vision.

Whether these effects are produced by first undermining the general health I cannot say.

All good medical writers regard tobacco smoke as very injurious, especially where there is a tendency to inflammation. Many of the non-smoking members of this Association have realized the terrible effects of tobacco smoke, not only upon the delicate structures of the eye but upon the whole man, soul and body, during the meeting of our Association.

Some diversity of opinion exists as to the propriety of commencing the use of glasses, when the power of distinct vision at the natural or usual focal distance ceases. Some contend that if at this period, which usually occurs at from forty to forty-five, the eye is compelled to do duty without the aid of artificial helps, nature under the pressure will soon restore the form of the optical organs, so that sight at the ordinary distance will be as good as ever. Nature, it is contended, is equal to any emergency.

But however beautiful the theory, facts do not seem to corroborate its truthfulness. As well might we assume that continued persistence in masticating food on the gums after

the second set of teeth have been removed would most assuredly develop a third set. The course proper to be pursued seems simply to be this: When at the period in life above referred to, difficulty is experienced in the perception of small objects, when in the careful scrutiny of minute details the light seems insufficient, and the object blurred and indistinct, and when continued effort increases the difficulty, and causes pain in and above the eye, we should be admonished that nature, much abused, is beginning to succumb, and however much we may apply the lash and spurs he will not respond, as aforetime. The demands of nature are stern and relentless, and penalties must be paid.

Recourse to glasses is the only remedy. There may be however, cases where rest and diversion from business is all that is needed.

The rules for selecting glasses, as well as the treatment of the diseases to which over-worked eyes are liable, we leave for the society to discuss.

The Best Means of Preserving the Eye-Sight of Dental Practitioners.

BY J. M. PORTER, D. D. S.

Read Before the Ohio State Dental Society.

This is indeed an important subject, and especially important to the dentist, involving as it does his own happiness and professional usefulness, and the comfort of his family.

It is important alike to the young and to the middle aged. The former class are anxious to preserve their sight, and the latter class are equally anxious to postpone the characteristics of old age, at least as far as their eyesight is concerned. Permit me to give a brief description of the eye as given by Prof. A. Metz, in his anatomy and histology of the eye. The human eye is an organ-physical apparatus which has, by means of a system of collective media, the property of casting real images of objects on the retina. The impression of light thus made on the nerve-membrane is conducted by the optic nerve-fibres to the brain, where consciousness is enforced. This wonderful little dioptric organ ranges, anatomically, over Vol- xxvii.---3

a wide field, containing within itself and its appendages all the structures composing the human body. As an optical instrument it is perfect beyond imitation, having the wonderful property of self adaptation to long or short distances.

In order to apply a remedy in any diseased condition, it is always necessary to know what is the cause of the disease, and why it is produced. The work of the dentist is such as to require the adjustment of the eye to a certain position, and also demands that this position be maintained for a considerable length of time. This constant looking at small objects near the eye demands a convergence of the sight, and this convergence is produced by the contraction of the internal recti muscles. You all know that by constantly using a muscle we are liable to strain and overwork it, producing weakness and want of tone. This being true, the work of the dentist has a tendency to produce muscular asthenopia, and accommodative asthenopia. By asthenopia we mean the inability of maintaining the adjustment of the eye for short distances for a length of time, and the hyperæsthesia of the retina and ciliary nerves. The dentist is liable to have muscular asthenopia on account of constantly using the internal recti muscles while operating, being compelled to contract these muscles in order to see a small object near the eye, and the same position of the eye is maintained in excavating a cavity or in filling the same. He is also liable to have accommodative asthenopia by constantly looking at a small object near the eye, as you know we do not materially change the distance from the eye to the object during an operation. These two forms of the same disease should be avoided and dreaded by the dentist, because his daily work has a direct tendency to produce one or both. If you have muscular asthenopia you can detect it by the eye becoming weary while looking at a small object for a length of time, and also by one or both eyes refusing to maintain a converged position. You will know by this test that one or both of the internal recti muscles are either sprained or overworked, and that they are not sufficiently strong to maintain this converged position of the eye necessary in looking at a small object near the eye, or

in operating. If you have accommodative asthenopia you may detect it by the eyes becoming weary while reading, and the letters will seem blurred and indistinct.

I have consulted a number of authors as to the cause of asthenopia, and I find that they all agree that the two forms of this disease are produced by overworking the muscles of accommodation or the internal recti muscles. This accommodative act is exceedingly interesting and instructive. This accommodation of the eye to different focal distances is controlled and produced by the action of the ciliary muscle; that is, when we wish to see an object at a certain distance from the eye this muscle acts upon the lens in such a manner as to enable us to see the object distinctly. This accommodative act is nicely illustrated in looking at stereoscopic views. When you first place the stereoscope before the eye the view is not distinct as it is after you hold the instrument in position for a few seconds. I trust you will, by this illustration, comprehend what is meant by the muscular accommodation of the eye which enables us to see objects distinctly at different focal distances, and also that you may see how this muscle of accommodation may become overworked, weakened, and diseased by constantly looking at an object at a certain distance from the eye, or by doing just such work as the dentist is daily called upon to do. I can perhaps more perfectly illustrate how this muscle of accommodation may become diseased by giving you the position it maintains, and the function it is required to perform in making a dental operation.

In looking at a small object near the eye we have contraction of the circular or voluntary fibres of the ciliary muscle, causing an increased anteroposterior diameter of the lens, that is the anterior convexity of the lens is increased. This muscular contraction must of course be maintained during the entire operation. The important question with the dentist is, how to avoid these two forms of this disease; also how to obtain relief when suffering from its effects.

The various authors on diseases of the eye agree that to prevent this disease we must have strong, steady light; frequent change of position while working; also frequent inter-

ruptions so as to rest the eye. When we first detect the presence of this disease, we should immediately use convex glasses. These glasses are especially valuable in relieving accommodative asthenopia. By their use the object is magnified, and this enlarging the object will decrease the labor of the ciliary muscle, or muscle of accommodation. These glasses will also relieve the internal recti muscles, but not to the same extent as the muscle of accommodation. The best way to relieve the internal recti muscles is to use convex glasses ground in with prismatic glasses. The use of these glasses will relieve the convergence of the eyes, and of course will relieve the muscle producing the convergence. Another mode of relieving muscular asthenopia is recommended by some authors, called tenotomy. This operation consists in clipping the tendon of the external rectus, so as to enable the internal recti muscles to converge the eyes with less effort. The objection to this operation, is if the tenotomy be too extensive, a convergent squint is likely to be produced.

In order to avoid this disease, as I have suggested, have strong steady light; frequent change of position while operating; and rest the eye often by looking around the room or at some distant object. If you have accommodative asthenopia, use convex glasses so as to magnify the object, and in muscular asthenopia use convex glasses ground in with prismatic glasses, and in accommodative asthenopia combined with muscular asthenopia, use convex glasses combined with prismatic glasses. This, of course, is a work for oculists, who are the proper persons to consult.

Mercurius Vivus.

BY H. L. AMBLER, D. D. S., M. D.

Mercurius is one of those heroic drugs which by the discovery of homeopathy has been converted into a life-saving and health-restoring instrument of the healing art; aiding us in proclaiming that every true drug in the three kingdoms of nature symbolizes or represents some corresponding disease of the animal system. Like many other drugs, in its crude form it is too energetic in its action; many times by the use of

large doses endangering the health and life of the patient. But let us develop its finer powers and effects by combination and trituration with a vehicle which will not change the practical facts in relation to its medicinal effects: thus it is made agreeable to take, and its action is controlled to such an extent that patients will be free from all liability to salivation or any of its concomitant evils.

The name hydrargyrum is derived from two Greek words: *udor* (water) and *arguros* (silver.) It was called mercury in honor of *Mercurius*, the messenger of the gods, whose fleetness and volatile character mercury was supposed to symbolize. When found pure in a metallic state it is in globules in the cavities of ores, or combined with silver. At the present time the mines of California are said to be the richest in the world.

Aristotle informs us that Dæclatus, who lived 1,300 years before Christ, communicated a power of motion to a wooden Venus, by pouring quicksilver into it. Dioscorides and Plinius believed that mercury destroyed the inner tissues by its weight. It was first employed for the cure of cutaneous affections, and acts principally upon mucous and serous membranes, nervous tissue and the osseous system. The purest quality is obtained by the distillation of artificial cinnabar, (six parts mercury and one of sulphur with iron filings; sulphuret of iron is thus formed, the mercury passing into the receiver which should be filled with water. The mercury is then collected on a piece of leather, and by means of a press all humidity is removed, leaving it a brilliant tin white.

To prepare this drug in the homeopathic manner we take one part of it pure, and triturate with nine parts sugar of milk; this is called the first trituration according to the decimal scale. The next trituration would be made by using one part of the first with nine parts more sugar of milk, thus producing the second trituration; and in this way carrying the potency high as you may desire. In this remedy, however, the potency after the third or fifth is generally carried higher by using pure alcohol for dilution or dynamization.

In effect on examining the degree of intensity with which the various attenuations act, we find that the diminution of their energy is in no way proportioned to the diminution of their matter. On the contrary we are aware that many substances, such as lycopodium and carbo-vegetabilis, in a state of concentration, have little or no action on the system, but often become powerful agents when we bring them to the second or third potency.

The specific peculiarity of the action of this remedy is in specific rapport with the character of dental neuralgia and pericementitis. This remedy is an individual, and as such has an individual sphere of action, determining specific changes in organic tissues, and holding particular relation to these tissues in disease. The disease is driven out of the tissue by a species of elective affinity, which exists between the drug force and the morbid principal, the result being a natural absorption or equilibration; this state making itself apparent by a gradual diminution of morbid phenomena and return to health. We know that the lymphatics arise by a network of delicate structures, and are distributed throughout the whole animal economy, bearing a close resemblance to the venous system. It is in these lymphatics that the chyle and lymph circulate, being gradually conducted to their reservoirs, the right and left thoracic ducts, which empty into the right and left subclavian veins; this circulation evidently being carried on independent of the heart's action, by the contractibility of the coats of the lymphatics, whose functions are preliminary to those of the veins.

After coming thus far we will be able to understand something of the physiological action and therapeutic use of mercurius vivus, which will be at the same time both logical and consistent. Then we say it is the lymphatic system upon and in which this drug first makes its special point of attack in the living organism; and in these lymphatics it meets the unfriendly morbid force which it is called upon to subdue, by diminishing and paralyzing the action of the irritable lymphatic capillaries. These phenomena are attended with symptoms of congestion and vascular excitement, similar but

not like true congestion of the sanguineous capillaries. Ever true to their instinct of absorption the lymphatics take up this remedy; thus through them and the venous system secondarily it is carried to the immediate seat of disease, where it hushes the enemy, restoring a normal condition.

Mercurius should be kept in a clean, dry, dark place, free from all odors; and when obtained should be of known purity, well and thoroughly prepared for use by trituration. It is well to abstain from all food and drink, as well as excessive bodily or mental exercise for half an hour after taking. Thus we do away with leeches, blisters, and their accompanying satellites, which are so disgusting and disagreeable, often destroying the very thing they seek to save, and tormenting you with well meant cruelties.

PROCEEDINGS OF SOCIETIES.

The Michigan State Dental Association.

A preliminary meeting of this body was held on the evening of November 12th, in Jackson. George W. Stone, President of the Association, occupied the Chair.

Candidates for membership were admitted, and letters read from members who could not come.

Dr. G. E. Hays, of Buffalo, being present, was invited to take part in the deliberations.

The Association extended a similar welcome to any medical gentleman, from the city or elsewhere.

Letters were read from Dr. S. P. Cutler, of Mississippi, on the use of the microscope. Prof. Cutler claims to have discovered the ultimate molecules or atoms, which have eluded the search of scientists.

The Association then adjourned until nine o'clock on Wednesday morning.

MORNING SESSION.

The subject of Dental Hygiene occupied the time until noon. Dr. Thomas advised denists to urge upon parents the duty of closer attention to children's teeth. Dr. Dorrance thought that children's teeth often sustain fatal injury before they are even examined. Dr. Jackson developed the evils of bad food. Dr. Hayes urged cleanliness. Small brushes and frequent rinsings of the mouth were recommended by Dr. Hawxhurst.

AFTERNOON SESSION.

A short paper was read by G. R. Thomas, on the subject of Dental Education, very closely summarized as follows:

Dentists should possess energy, courage, perseverance, a love of their occupation, and true gentlemanly courtesy. Genius is not essential to success, but the other qualities are. He should have a strong constitution, and hence women generally ought not to enter upon the profession. He should be in love with his profession, and should be possessed with

a desire for improvement in all the branches of the art. Tooth-pulling and tooth-filling are not all there is in dentistry. Dentistry begins with the study of the physiology of the human system, and he is not worthy of the name of dentist who is ignorant of dental pathology. Every dentist should be a physician; he should be able to diagnose a case as accurately as any physician might do it. In administering anæsthetics a high degree of medical judgment is necessary. The dentist should be orderly in his room and neat in his person. His rooms should be kept neat; many a dentist yearly expends more for tobacco and liquor than would suffice to put his place of business in attractive shape. A dentist ought not to use tobacco; and the public ought not to trust a dentist who uses liquor. The paper then discussed quite minutely the practice of dental colleges in issuing degrees urging a higher standard than some institutions have insisted upon.

After much discussion, there was a general agreement upon the desirability of a dental department in our State University.

Dr. Hawxhurst, Robinson, Thomas, and several others, were appointed as a committee to confer with the Regents of the University, relative to establishing a dental department in connection with that institution.

EVENING SESSION.

Dr. Hawxhurst, of Battle Creek, then began the reading of an interesting paper on Dental Chemistry, particularly with reference to the use of phosphates as a remedy for a scanty supply of the osseous elements in food. These substances had been prescribed by many dentists, to correct the deficiency of bone forming substances in the system. Dr. Hawxhurst gave an analysis of the tooth, showing that all the constituents of dentine are to be found richly in both vegetable and animal food. He then discussed the necessity of such mineral salts in the food, showing that their withdrawal causes enfeeblement, and ultimate death. Applying the statement to dentistry he argued that defective teeth resulted from defective organization; and that defective organization

resulted, in part, from the lack of mineral salts in the food; and this led him to criticise the mill system of the country, whereby all the tooth-nourishing substances are "bolted out" of the grain, rendering it entirely inadequate to the development of sound dental organs. From the expressed opinions of leading practitioners in this and other countries, he was led to infer a widespread and profound conviction:

1. That defective organization of the teeth is the great predisposing cause of decay.

2. That defective organization arises from defective nutrition, and this largely from a scanty supply of lime salts in the ingested food.

"Millions of children in the United States fail to supply their blood with mineral salts in quantities sufficient to support normal nutrition. As a consequence their teeth are so poorly organized as not to resist the most feeble causes of decay. Nutrition has not been wholly arrested, as in the animals experimented upon by Milne Edwards, but it has been subjected to a long continued disturbance, which, though permitting a sort of stunted development of the teeth, has nevertheless entailed upon them serious molecular defects." The result of this is that the teeth of most children are unfitted to resist even ordinary causes of decay.

This portion of the paper exhibited so much thoroughness of research and boldness of statement as to provoke a long and animated discussion.

MORNING SESSION.

On Thursday morning Dr. Hauxhurst resumed the reading of his paper on "Dental Chemistry." He began by stating the question to be: How to supply the deficient elements of nutrition and furnish them to the impoverished blood and starved tissues in assimilable form. The opinion has been held that artificial lime salts, unvitalized by the plant, can not be assimilated, some even pronouncing them worthless; while others believe in their assimilation. But the proofs on either side seem to be wanting. He considered the subject one of great intricacy, and urged the rejection of all mere authority,

unsupported by fact and experiment, or the most direct and rational inference from these.

He first considered the solubility of the chemically prepared phosphates in the gastric juice.

After an extended investigation, he answered this question in the affirmative, though thinking the solubility rather difficult. Having shown that they might thus be absorbed into the blood, he next asked: "Can artificial preparations of the phosphates be assimilated by the tissues? Or, will the atoms circulate as foreign substance in the blood, and finally be excreted from the system?" He showed by cautious appeal to facts, and by numerous reference to European experimenters, that those practitioners are mistaken who maintain that chemically prepared phosphates are not assimilable; and who hold that none but mineral substances, that have been organized in the plant, can become a part of animal tissues. He concluded this portion of the paper, in the words of the German Wibner: "The discriminating exhibition of the phosphate of lime increases incontestably the presence of the calcarious salts in the bones" and other tissues. For easy digestibility, he preferred the lacto-phosphate, as prepared by Dusart and Blanch.

Dr. Spellman suggested that the essayist be continued as chairman of the same committee another year. He thought that those who held with the essayist, that even common articles of food are indigestible for some stomachs, phosphate of lime may act differently on different persons, had some grounds for their opinion. He thought that the views put forward were susceptible of demonstration, but held that, as the essayist had already indicated, the subject needs much investigation.

Dr. Main rendered his thanks to the Association for the instruction and entertainment afforded by the essay. He agreed with the conclusions arrived at by the essayist.

Dr. Jackson gave an interesting case where the phosphates had caused the eruption of the teeth.

Dr. E. S. Holmes thought that the eruption of the teeth was not necessarily due to the action of the phosphates. He

proposed a series of experiments on pigs to test whether the phosphates can be assimilated or not.

Dr. Douglas thinks *animals* may assimilate phosphates but not *men*.

Dr. E. S. Holmes described a case of arrested dental development in a child of eight months. On changing her diet to Graham mush her teeth were promptly erupted.

Dr. Jackson described a case of a child twenty-six months old. Its food had been farine. He gave doses of two grains of phosphate of lime with Graham diet; twelve teeth were erupted in two months.

Dr. Douglas inquired whether inorganic matter can be assimilated. He thinks not.

Dr. Main says that there seemed to be little ground for doubting Dr. Hawxhurst's conclusion. In theory we can hardly doubt it. The experience of every physician in the use of iron confirms it.

The paper and the discussion occupied the whole of the morning session, and created a great deal of interest in the minds of those present.

AFTERNOON SESSION.

Dr. Bannister, of Kalamazoo, presented a carefully prepared paper on the working of steel, particularly as applicable to perfecting the points of dental instruments. His essay contains an epitome of all the important principles and facts bearing upon the subject. Methods of beveling curved edges by means of grooved stone wheels were described and illustrated by actual demonstrations. A number of instruments were made, tempered, and beveled. Dr. Bannister by special request repeated his demonstrations next day.

EVENING SESSION.

Dr. Hawxhurst finished the reading of what the *Free Press* calls his "long and elaborate paper."

The Association then proceeded to make choice of the time and place for holding the next annual convention. It was finally decided to meet in Detroit on the second Tuesday in October.

The following officers of the Association were then elected: President, G. R. Thomas, of Detroit; Vice President, B. Bannister, of Kalamazoo; Secretary, T. R. Perry, of Grand Rapids; Treasurer, E. S. Holmes, of Grand Rapids.

Dr. Hawxhurst, of Battle Creek, was chosen a member of the Board of Censors, in place of Dr. Thomas, whose term has expired.

The following gentlemen were chosen delegates to the American Dental Association, which meets at Put-in-Bay, Ohio: C. C. Jenkins, Ann Arbor; D. C. Hawxhurst, of Battle Creek; I. Douglass, Romeo; G. W. Stone, Albion.

Dr. Hunter moved that Dr. Hawxhurst be requested to prepare for publication and publish in book form, the valuable paper read by him before the Association, which was unanimously adopted.

A letter was read from Prof. Taft, stating that sickness and other unfavorable contingencies had prevented his meeting with the Association.

A letter was read from Dr. E. J. Wayne, in behalf of a union between the Northern Ohio Dental Association and the dentists of Michigan.

The Association voted unanimously in favor of such a union, and by resolution expressed itself in favor of going in a body to the Put-in-Bay meeting, in June 1873.

EDITORIAL.

Annual Meeting of the Ohio State Dental Society.

The seventh annual convocation of this body was held in the city of Columbus, December 4th, 5th, and 6th.

There was a large number of the members present, and in addition to these a large number of visitors.

The meeting was a very good one; nearly all of the active members participating more or less in the proceedings.

Some excellent papers were read; and the discussions upon the different subjects presented were interesting and instructive; and many had occasion to say that it was good for them to be there. Quite a number of new, interesting and useful instruments and appliances were presented for inspection. Progress in the profession bears along with it great and important changes, and improvements in all these things.

It is every year becoming more apparent that the science of the profession is making rapid development. It is very gratifying to have a consciousness that it cannot, with truth, much longer be said that "though the American dentists may exceed any others in a mechanical and artistic aspect, yet as to its science there are those of other countries very much our superiors."

Now upon this we will not stop to discuss, but simply press on in the work before us.

The present meeting is an additional illustration of the statement we have so often made, that our profession is making very rapid growth and development.

Many regrets were expressed for the absence of some valued members who have usually been present, and added largely to the interest of the meetings. Of these we will mention Watt, Spellman, Williams, Butler and Berry; there are a number of others equally worthy of mention; indeed there were enough absentees, who of themselves would have constituted a grand meeting. We trust that at the next annual meeting they will with one accord be in the midst of their brethren.

Ohio State Dental Board.

The State Board of Dental Examiners held its annual meeting in the city of Columbus, on Tuesday, December 3rd, and held sessions during four days. Between eighty and ninety dentists appeared before the Board for examination. The majority of whom passed the ordeal very satisfactorily indeed. In many cases it was plainly evident

that considerable effort had been expended in preparation for the occasion; in some instances the preparation was of such a character as to be decidedly advantageous; in the examination in other cases it missed the point altogether.

All such study and preparation will be of permanent benefit. In other cases reliance was placed wholly upon what had been learned in early life, or at the time of studentship, together with what had been obtained by experience; the latter will be of value in proportion to the improvement made of it.

The ability of men to utilize experience, varies exceedingly; some will learn and observe much that will be wholly overlooked by others. And no where perhaps will such facts be more palpably brought out than in examinations like these.

The position of the members of this Board is by no means an enviable or desirable one. The responsibilities are great, and the labor onerous during the sessions, and the various annoyances to which the members are subjected, can hardly be appreciated by those who have not personal knowledge of the matter.

The names and residence of all those who have passed the Board since its last annual meeting will be given in the minutes of the State Society, which will be published in the February number of the REGISTER.

There will be a meeting of the Board for the examination of applicants in Cincinnati at the time of the meeting of the Mississippi Valley Dental Society, which will be about the 1st of March next.

The precise time will be given in the REGISTER of February.

Transactions of the American Dental Association.

The volume of transactions of the meetings of the American Dental Association for the years 1871 and 1872, is at hand. It makes a very neat volume. The Publication Committee have showed ability and good taste; as usual, however, a few typographical errors have crept in as will be seen by the corrections noted below, in one paper, viz: that of Dr. Sage, on Therapeutics. These and others occur doubtless because the proof was not sent to the writers. Publication Committees are sometimes placed in an unpleasant position by just such things.

The volume is one that no dentist should be without, for it contains much that is valuable. It may be obtained of Dr. M. S. Dean, the Chairman of the Publication Committee, Chicago, or of the Treasurer, Dr. W. H. Goddard, Louisville, Ky.

Corrections.

In the published transactions of the American Dental Association for 1872, the report on Dental Therapeutics, contains some typo-

graphical errors which, it seems to the writer, quite important to correct. I will mention only the most prominent.

For "18½," on page 73, sixth line from top, read "1872;" for "if the sensitiveness might be due," on page 74, third line from bottom, read "if the sensitiveness was due;" for "maganese," on page 79, third line from top, read "manganese;" for "cymglic," on page 83, first line at bottom, read "cymylic;" for "Ajonan," on page 84, tenth line from top, read "Ajowan;" for "living membrane," on page 85, ninth line from bottom, read "lining membrane;" for "thymilic," on page 85, nineteenth line from top, read "thymylic;" for "Chloride of Lime," on page 86, seventeenth line from bottom, read "Chloride of Zinc;" for "instead," read "intact;" for "ulderised bone," read "necrosed bone;" for "organic," on page 87, read "inorganic."

H. L. SAGE.

Ethics.

Frequently such advertisements as the following are sent to us with a request for an opinion as to the propriety of such announcements. The following just received:

SCIENTIFIC DISCOVERY.

TEETH EXTRACTED.

POSITIVELY PAINLESS.

Without the use of nitrous gas, chloroform, or freezing process.

Artificial Teeth inserted without plate or clasps. Plumpers adjusted to sets, to set out the cheeks and restore youthful appearance. Weighted lower sets.

☞ Persons coming to the city can have teeth inserted the same day.

Dr. Q. Blowhard,

[LATE OF NEW YORK],

GRADUATE DENTIST.

Room 1090, No. 74016 W. Street.

Now as to the propriety of resorting to this kind of advertisement, there is no diversity of opinion in the minds of truly professional men. It, to say the least, savors strongly of quackery. The employment of such means may generally be regarded as evidence of a want of proper ability. It is employed to supplement that which is far more desirable.

The dentist who is conscious of his professional strength and ability, is always disposed to rely upon these as the great elements

of his success, and not upon the means used by charlatans and quacks everywhere, viz: by pretentious, self-laudatory, and untruthful advertisements, which deceive the unwary, and disgust the intelligent and discriminating.

In all intelligent communities such advertisements fall short of the point aimed at; and instead of securing that which is desirable, in a business aspect, it seems only to draw about one a class of persons whose contact, in a business way, so far from proving a stimulous is depressing and demoralizing; and so it is found in almost all instances that those fullsome advertisers either never possessed any desirable professional ability, or if they did, they came to a deliberate conclusion to prostitute their chosen profession to a very degraded level. Generally these advertisemants contain either directly or by implication that which is not true, and so far as belief is given to them are they a means of deception. "But if we may not advertise, how shall we obtain business?"

To this we will endeavor to give an answer ere long.

Gutta Percha.

We have just received the following in reference to vulcanizing gutta percha for dental plates from Dr. W. E. Driscoll, which accords very nearly with the results obtained by others. Indeed similar results were obtained with gutta percha fifteen years ago, but it was abandoned because of a little more difficulty in manipulating it.

"Agreeably to your request to let you know when I succeed satisfactorily with vulcanized gutta percha, I enclose a specimen which I think settles the question.

It is vulcanized too hard for a practical plate, but I did that when vulcanizing a rubber one at the same heating.

The only difference in the manipulation from that of rubber is that about one third as much sand must be used as plaster in making the mould, and perfectly dried before packing. Then the mould or flask must not be more than just barely warm enough to make the gutta percha press into proper shape.

Thirty minutes is short enough time to bring the temperature up to three hundred and twenty degrees, and fifty-five minutes enough to keep it at that point.

I have a number of plates of this material that have been in use two months, and seem to be fully as good as rubber, and resembles rubber plates so much that no one can tell the difference by looking at them only.

This is a matter of so much interest to the greater portion of the profession, I think you will confer a favor upon them by calling attention to it in the REGISTER."

A New Tongue Holder.

We have had in use for some time "Osborn's Tongue Holder and Duct Compressor," which accomplishes the object proposed by it better than any appliance hitherto in use. It is a very good appliance indeed, and one which every operator will find invaluable in many cases. A cut of it will be found in the advertising sheet of the REGISTER.

Changes, Professional.

Dr. B. T. Spellman, recently of Warren, Ohio, has removed to Detroit, and formed a business connection with Dr. H. Benedict, an old established practitioner of that city. We congratulate the profession of Michigan upon the acquisition of Dr. Spellman to their ranks; but we in Ohio *cannot* afford to spare such men.

We now promise the profession in Michigan that we shall retaliate upon them at the first opportunity, which will possibly not be long delayed.

Also Dr. D. R. Jennings, formerly of Ravenna, is now in Cleveland, hewing his way right along in the front ranks, indeed he wouldn't be any where else. The Doctor has got into such a shape that this is about the only place into which he would fit.

The Rubber Contest.

In reply to the numerous inquiries in reference to the common cause which the profession is making with the owners of the Cumming's patent, we would say that we have information that the Committee of the American Dental Association, as well as the Committee of the Ohio State Society are at work organizing for a concert of action in all the states to resist the demands of the Dental Vulcanite Company.

In the matter of the Gardner Appeal Case, S. S. White is pressing his issue upon them. And Bacon and Company are using all the ordinary and extraordinary means to postpone a hearing. It is not probable that it will be delayed long after the holidays. The purpose of this delay it would seem is to allow as many of the profession as possible to send in their annual contributions during the month of January. In the event Mr. White is successful; a good portion of this material aid would be withheld.

We would suggest that dentists be in no hurry to send on their money—for the way matters look now, it is not only probable that Mr. White will succeed in setting aside the Appeal Case, but also, that the Cummings patent will ultimately be overthrown. The accomplishment of so desirable a result depends however largely upon each man in the profession doing his duty, and giving aid to organizations for this purpose.

H. A. S.

THE
Dental Register.

VOL. XXVII.]

FEBRUARY, 1873.

No. 2.]

COMMUNICATIONS.

Alkalies.

BY H. L. SAGE, D. D. S.

In regard to the relative effects of acids and alkalies upon the teeth, doubtless every one will admit, that the former are much more destructive in the aggregate than the latter, for this reason, if no other, that acids are more generally present in the mixed saliva of the mouth than alkalies. That alkalies *never* attack the structure of the teeth, is not probable—and it may be, that in those comparatively rare cases where caries is produced by the action of alkalies, the destruction is more complete and thorough, than when an acid is the agent.

Whether the action is vital or chemico-vital, is a question. It is, probably, in some cases, both, while in others, it may be either vital or chemical. In Garretson's Oral Diseases and Surgery, page 164, we read: "In these depressions, (referring to the teeth) lodge and decompose the various ingesta of diet, acting of course as irritants, and producing, as I believe, just the same character and effect as would be produced in any bone; that is inflammation, yet modified of course by

differences, which exist between the tooth bone and ordinary bone; it is, however, inflammation in the one case and inflammation in the other; the matter of *acids* and *alkalies* has little to do with the matter, excepting as they are agents of irritation," thus admitting, that alkalies may have an influence in the production of caries, by causing inflammation in the dentine. The action then becomes vital, by lessening the ability of the teeth to withstand the destructive effects of chemical agents.

He only casually alludes to the agency of alkalies in this direction, and this is almost entirely overlooked by most, if not all, dental writers.

Tomes also considers caries a chemico-vital action. He alludes, on page 372 of *Dental Surgery*, to "those agents which may be regarded as capable of acting in the double capacity of depriving the dentine of its normal powers of resistance, and of producing its immediate decomposition"—and "that the vitality of dentine must have been lost before the tissues undergo decomposition." The consolidation of dentinal fibrils on the surfaces of carious cavities, he regards as "an attempt on the part of nature to circumscribe and limit the mischief."

Harris, on the other hand, scouts the idea, that caries of the teeth is influenced by inflammation of the dentine, or that the osseous structure of a tooth, (considered with regard to the fibrils) is capable of being inflamed, and regards it as the result of the action of chemical agents alone.

Prof. Taft sustains the chemico-vital theory.

The cause of the decomposition of dentine, is, he maintains, "either a lack of *vital power* to maintain the integrity of the organic structure, or the action of some agent having an affinity for a certain portion of the dentine more potent than that vital power." Impaired vitality, not only of the teeth, but of the general system, he regards as an indirect cause of caries. He also alludes to inflammation of the organic portion of the dentine, as being produced not only by local irritants, but as accompanying febrile, inflammatory, and other pathological conditions of the general system.

Regarding the action of alkalies, he states that they "will act upon the animal portion of the dentine and remove it;

and in caries thus produced, the residue is friable and chalk-like"—and also, that acids, some alkalies, salts and sweets will cause irritation of the nerve-tissue.

Garretson also says: (Oral Diseases and Surgery, 1st edition, page 198) "Certain irritative conditions of the oral fluids should receive attention; thus, whether the fluids be too acid or too alkaline, it is alike injurious and should receive attention."

That alkalies may have some agency in the production of caries, not only by their local action upon the vital or organic portion of the dentine, but indirectly by their systemic influence, as in some general pathological conditions, is, until disproved, entitled to some consideration. In regard to the local action of alkalies, it would seem to be more potent in the teeth of young subjects, in which the organic matter is in larger proportion than in adult life, for, as age advances, the teeth may become more dense by the gradual calcification of the organic portion of the dentine, and in a measure the obliteration or filling up of the tubuli by a deposition of lime salts, leaving the calcareous portion in greater excess, than is the case in the more highly organized dental structures of the young.

Acids, it is claimed by some, will not act upon living tissue, or upon the mineral portion of healthy bone, when applied for the purpose of dissolving carious or necrosed bone. While it is true, that acids will seize upon the lime of a living tooth, which has a lower degree of vitality than bone, it is likewise true, that if the vital or organic portion be removed or destroyed by inflammation and death, whether effected by the action of alkalies or by other means, the remaining inorganic portion will be acted upon more readily by the secretions of the mouth, should they subsequently become acid, owing to this loss of vitality.

So too, if the fluids of the mouth are abnormally or excessively alkaline, and inflammation exists in the animal portion of the tooth, will it not be less capable of resisting the action of these alkaline fluids, than if the organic constituents were in a normal condition?

Suppose caries, even though superficial, were caused in the

first instance by acid secretions, should the latter become changed to an abnormally alkaline condition, the teeth would probably continue to decay from the latter cause, owing to the organic portion having become exposed to the action of alkalis—though sound teeth bathed in *healthy* alkaline saliva will remain unaffected.

If bone be placed in a caustic alkali, the organic matter will be dissolved, leaving the lime. If hydrochloric acid be used, the lime will be dissolved leaving the gelatine. If a tooth be placed in an acid as weak as that contained in the acid or excessively acid, or alkaline or excessively alkaline secretions of the mouth, no visible effect will be produced on the enamel, for an indefinitely long period, in the one case or the other, and yet, if acids be present in the mouth, they will, in this weak state, decompose the lime of the tooth, or on the other hand, if the secretions of the mouth be excessively alkaline, they will act by dissolving the gelatine and fat. To be less positive, if the weak acid secretions of the mouth act upon the mineral portion of the tooth, why may not weak alkalis dissolve the animal portion, though if, out of the mouth, a tooth be placed in a weak alkaline solution, no effect will be produced?

Perhaps acid secretions will act more *readily* on the inorganic portion, than those which are excessively alkaline will, on the organic, the progress being, in the latter case, more tardy.

Thus, the excessive use of alkaline mouth washes, may prove deleterious by dissolving out the fat, and also the gelatine, from the enamel and dentine, leaving the surface soft and chalky.

A prominent dentist affirms that he has seen this effect produced by the use of sozodont.

Headland says, (Action of Medicines, page 145) "Alkalis dissolve fats," Page 146, "Alkalis likewise dissolve organic compounds of the albuminous group, and prevent the coagulation of fibrine."

Tomes says, (Dental Surgery, page 373) "Litmus paper applied in the cavity of a carious tooth, almost invariably gives strongly marked acid reaction, and thus furnishes evidence of the existence of an agent capable, if unresisted by the

vitality of the dentine, of depriving that tissue of its earthy constituents, leaving the gelatine to undergo decomposition, favored by the heat and moisture of the mouth."

The ravages of caries were most extensive, in the case of a young man, in which the secretions of the mouth presented an *alkaline* reaction.

In this case, litmus paper, previously reddened by an acid, and applied in the *cavities* on the labial surfaces of the front (superior) teeth, showed an *alkaline* reaction. Cavities were present in almost every conceivable location, and, on the labial surfaces of the front teeth, were nearly crescentic in shape, besides forming, as expressed by Mr. Tomes, "An annular belt of softened tissue nearly around the teeth."

Those portions of the lingual surfaces, next to the gums, of the first and second inferior molars, did not escape the destructive effect of the agent or agents at work in this mouth—the cavities presenting horizontal, narrow and somewhat irregular strips of decomposed tissue, at or just above the junction of the enamel and cementum, which may be cited as a very rare case, of caries in this location. As in this case, the carious tissue was not as sensitive as would be expected by the appearance, may not this be attributed to the absence of acid secretions in the cavities?

The sensitiveness resides in the organic portion of the dentine. Alkalies act upon this by dissolving it, which may account for the absence of the usual amount of sensitiveness in the above case.

Again, may not the presence of ammonia in the saliva or in the breath, produce caries in rare cases, by its action upon the vital portion of the tooth? In the case before referred to, if litmus paper, reddened by an acid, was held over the gums of the front teeth, a vapor would be immediately formed indicating the presence of a volatile alkali. Was the latter, if such it was, present in the breath or in the saliva? Most probably in the former.

If in either the breath or the saliva, the inference would be, that ammonia was present in the blood, or produced by the decomposition of organic matter in the stomach.

Piggott, while admitting that ammoniacal saliva exists,

states that it is rare; that "it is dingy and clouded, with a very strong alkaline reaction," and that "neuralgia and nervous disturbances generally have a remarkable connection with alkalinity of the saliva" (Dental Chemistry and Metallurgy page 214 and 215.)

Whether or not ammonia exists in the blood, is a matter of controversy. In Headland's *Action of Medicines*, page 389, the author says: "According to Dr. B. W. Richardson, the existence of free ammonia in small quantity in healthy blood is the chief or only cause of its alkaline reaction," etc.

Page 388, "Ammonia is capable of acting chemically as an alkali in the system." Page 391, "Experimenters differ on the question of the presence of ammonia in the breath and perspiration. The former is more readily examined. Richardson, with Viale and Latini, states that ammonia is present in the healthy breath. Reuling, on the contrary, finds etc. But this ammonia in the breath, an index of that in the blood, is increased, he says, in low fevers and albuminuria." Page 391, "Ammonia is volatile and soluble in air; and tends for that reason to pass off freely from those secreting surfaces which are immediately in contact with the atmosphere."

If this be true, may it not pass off through the mucous follicles of the oral cavity as well as in the breath, and if in excess, exert some influence in the production of caries? Page 143, "The natural alkalinity of the blood is due to the presence of free soda and ammonia (see page 135.) Potash, when given as a medicine, must liberate these weaker alkalies from their saline combinations. Thus potash rarely, if ever, exists free (or carbonated) in the blood. It acts by setting free soda or ammonia." Question: will not potash, when taken in the food, liberate ammonia, and thus, if in excess, produce injurious effects upon the teeth?

Alkalies, in excess, are said to retard nutrition and cause spareness of the system. Thus it would seem, that the influence would extend to the osseous system and the teeth, and thus cause deterioration in this direction, by checking the nutrient action of materials, which would otherwise go to maintain the integrity of the latter. In some diseases, in which alkalies are in excess in the blood, this might be one of the effects—as in some kinds of fever.

Headland (page 136) thus refers to this excess in fevers: "In the yellow fever of tropical climates, an excess of alkali in the blood was discovered some years since by Dr. Blair. This alkali seems to be ammonia."

From the fact that some of the English physicians treated typhus and typhoid fevers, with the greatest ratio of success, with mineral acids, it would seem to confirm the truth of the above theory. "Of 230 cases of continued fever in St. Mary's Hospital, Dr. Chambers treated 109 on "general principles," 121 with hydrochloric acid. Of the 109, 23 died; of the 121, only four died. Continuous liquid nutriment of beef tea and milk, was given along with the acid. Dr. Henderson found at Shanghai that the mortality from continued fever was reduced by the employment of the acid from 28 to 7 per cent.

Mr. Day, of Stafford, has found nitric acid of great use in malignant scarlatina."

(See also page 138 on the use of vegetable acids) "In fevers of a low type, when there is a tendency to alkalinity, the vegetable acids may act directly by neutralizing the alkali in the blood," etc.

It is not unreasonable to suppose, that this excessive alkalinity of the blood, during fevers and some other diseases, may cause deterioration of the teeth, aside from the action of medicines or the loss of nutrition, for it might, as before stated, be eliminated not only by the salivary glands, but, if a volatile alkali, through or upon the mucous surfaces, and by the breath, and thus act injuriously in a variety of ways.

It appears that the salivary glands are very sensitive to physiological and pathological conditions, or changes of the system. According to Lehmann, many mineral and organic substances are rapidly eliminated by them, far more rapidly than by the urine, and before they could be separated by the kidneys from the mass of the blood. It would thus appear, from the foregoing statement, that an excess of acid or alkali in the system, would be likely to be at once indicated by the saliva, and many alkaline constituents of food would thus be expelled by these glands.

Lehmann also states, that alkalinity of the saliva is often associated with cholera and Bright's disease, to which is given the name *Uræmia*. He has always found the vomited contents of the stomach strongly alkaline, and rich in carbonate of ammonia. (See Lehmann's *Physiological Chemistry*, vol. I. page 424, 426 and 448.)

"According to Wright," says Lehmann, the quantity of alkali in the saliva is increased after the use of fatty, aromatic, acid, spirituous, and more particularly, indigestible kinds of food and drink."

The acids generated in the stomach in certain kinds of dyspepsia, and thrown off therefrom by eructation or otherwise, will render the saliva acid, as well as act upon, or corrode and decompose the enamel, etc., while that kind of indigestion associated with excessive alkalinity of the contents of the stomach, will also influence the character of the secretions of the mouth, and might thus render them abnormally alkaline, with the accompanying deterious action upon the teeth.

Intermittent fever is said to be a blood disease, caused by exposure of the system to a peculiar poison generated in miasmatic districts, by decaying vegetable matter. Now, one of the products of the decomposition of the latter is ammonia. Perhaps the inhalation of this in large quantities, and its absorption by the blood, (aside from or together with the poisonous gases thrown off by decaying organic matter, and inhaled) may have some effect in producing this disease.

Headland refers to the "increasing excretion of ammonia by the breath and skin in low fevers and eruptive disorders."

Whether or not an excess of alkalies is the cause, or only an accompanying condition, or an effect of many diseases, it is evident that their action is two-fold. It may be, by impairing the vitality of the system, and thus be a predisposing cause of caries. It may be that, either by elimination in excess by the salivary glands, the mucous follicles of the oral cavity, their exhalation by the breath, and their presence in undue quantity in the fluids of the mouth, they act directly upon the vital structures of the teeth. Then again, their excessive local or constitutional employment may be productive of caries.

Whether or not, as before intimated, an excessive alkalinity of the general system may be an *effect* or a *cause* of many diseases thereof, may not be apparent. That it may be, in some instances, a predisposing, and in others, a direct cause or excitant of diseases in the dental organs, is more capable of proof. That in isolated cases it may act simultaneously in both directions, would seem very probable, from the possibility of its acting in either. But it is presumed, that an excessive alkalinity of the saliva, of the blood, or of the organic matters of the stomach, is not always confined to persons whose systems are affected by any of the diseases before enumerated. It may be, as the case of the young man referred to in this paper would go to show, that an individual enjoying a good degree of health, may experience the most thorough and destructive type of caries in his dental organs, by the direct or indirect action of alkalies.

Much has been written concerning the influence or action of tobacco upon the teeth, more especially in connection with chewing—most maintaining that it is inert—others, that it renders the gums unhealthy, softens the dentine, etc. But there is another aspect of the question which has been overlooked. The vapor of burning tobacco is said to contain, in considerably quantity, carbonate of ammonia, which is, according to Headland, largely absorbed by the mucous surfaces of the mouths and lungs of smokers. This, he says, must be viewed as a course of alkaline medication, with risk or advantage attending it, according as the humors are alkaline or the reverse—it being in the former case injurious, or in the latter beneficial.

Thus will not the excessive smoking of tobacco, by this absorption of the alkaline constituents by the mucus membrane, vitiate and change the character of the secretions of the mouth to such an extent, as to act injuriously upon the structure of the teeth?

The breath and saliva of habitual smokers is also ammoniacal, at least the former; and thus, large quantities of ammonia are evolved and thrown upon, or come in contact with the teeth. The question is of importance—is smoking (viewed in this light) injurious?

Next, comes a consideration of the action of tobacco (used in this form) as a *predisposing* cause of caries.

Persons overburdened with fat, sometimes resort to smoking as a remedy, the effect being to reduce the excess. This course of "alkaline medication," if it has the effect to dissolve fat, retard nutrition and cause sparseness of the system, might, in the case of individuals in whom a tendency to sparseness exists, by producing these effects, be productive of injury, by causing a withholding of certain elements of nutrition from the teeth, and thus render them less capable of withstanding the effects of chemical agents.

Of the effect of acids upon the dental structures, every one is cognizant—and it is hardly a matter of controversy, excepting as to whether in caries thus produced it is simply chemical, or a two-fold chemico-vital action—the weight of opinion and of proof being in favor of the latter theory.

If, as Harris takes the ground, the action of caries is merely chemical, or according to the theory of Tomes, Taft, and Garretson, chemico-vital, alkalies, as before intimated, would, in either case, seem to play an important part in causing caries of the teeth, whether by acting directly upon the organic portion, by causing irritation, or by retarding nutrition, and thus lessening the powers of resistance to the action of chemical agents. So little is known or said about the direct or indirect action of alkalies upon the teeth, or whether they have such action, that much of what is here gathered, is a mere *resume* of what may have a bearing upon the subject. It is believed by most, that alkalies have no agency in the production of caries, which doubtless accounts for the absence or dearth of literature upon the subject, together with the fact, it may be, that but little is known in regard to it, and it may seem presumptuous, to tread upon ground touched so lightly by minds capable of making close and thorough investigation. But many things not positively known are assumed—and assumptions, inquiries, and investigations often open the way for the clearing up of mysteries, and the development of facts.

Our profession, as a *specialty*, is yet in its infancy; and it is not surprising, that much obscurity should yet envelop

many theoretical questions, and that the effect of many pathological conditions of the general system, upon the development of the teeth and maintenance of their integrity, should not be fully comprehended. The medical profession even, with which is allied the dental, though of great antiquity, is not yet full fledged. But the continued evolution of light, will most assuredly develop more intelligent methods of practice, based upon a more correct knowledge of the causes, effects, influences and workings of abnormal conditions, and the attendant direct and indirect agencies, with the specific action of each upon certain tissues, and the elements entering therein.

Victories.

W. C. BARRETT, M. D. S.

Our great triumphs are made up of little victories, and I propose to relate some of mine, and thus attempt by small installments to repay some of my indebtedness for the simply narrated incidents of office practice, which I have often read and profited by. Of course no claim of originality of procedure is advanced; yet perhaps by combining the ideas of others I may in some cases arrive at results, which shall be suggestive of something useful.

Some of our religious denominations hold social meetings at which each in turn gives an epitome of his trials, his temptations, his struggles, and his victories. Why may not the readers of the REGISTER hold such an "experience meeting." Surely the simple narrative of some of our combats, and the consequent victories or defeats may be both entertaining and instructive. Therefore, "I arise to explain."

I lately had occasion to take a lower impression for an old lady of sixty-five. The lower teeth were all out, but in the upper jaw were four or five bicuspid and molars. The lower maxilla was large and broad, while the oral aperture was exceedingly small, with tense, rigid *orbicularis oris*. I could not introduce an ordinary impression cup without great difficulty, and when I did so a fold of the buccal mucus membrane would intervene and spoil the result. Finally I got the

best wax impression possible, and from this drew a plaster cast. Over this cast I moulded a cup of thin rolled tin, and upon its convex surface I soldered a thicker piece to stiffen it, allowing a projection for a handle. Then with a very little thin plaster of Paris I succeeded with no difficulty in getting a capital impression; a thing impossible to obtain in any case with a poorly adapted cup. I dare say, that in attempting with an ordinary cup to get an impression of some difficult case, I have often spent sufficient time to have made half a dozen, which should be exactly adapted to the mouth, and which would have given me a perfect impression at the first trial.

Miss D—— had a large cavity in the posterior approximal surface of an inferior first molar. The teeth were large, firm, in close contact, and were all present. The cavity was low down, and extended beneath the margin of the gum. The perplexities to be encountered were a lack of space, and the difficulty of keeping the cavity dry. Neither a ligature nor the clamps would hold the rubber dam down sufficiently low to prevent the ingress of blood, and a wedge would be too much in my way. I cogitated till a brilliant thought struck me. I had some of Jack's Matrices, but had never used them, and here was a capital chance to test their virtues. Nothing else that I could think of would exactly fill the bill, and if these would, why, I was armed with a new weapon. I separated the teeth with a No. 1 Froid file, and with my burring engine proceeded to open from the crown down to the cavity. When this was thoroughly done I slipped on the rubber dam, crowded a matrix down between the teeth till it had forced the rubber past the cervical edge of the cavity, wedged the matrix fast, and after finishing the excavating, proceeded to fill *as a simple crown cavity*, with, as Mark Twain would say, "that unflinching faith a Christian feels in four aces." When I was through, and had removed the matrix, I was somewhat surprised to find, that except upon the crown, my filling needed no finishing. Its proximal surface had no protruding edges, and was as good as I could make it. Since that time I have kept Jack's matrices in a convenient place not to use for every approximal cavity, but wherever they are

indicated. Whenever a weapon has proved particularly useful in any encounter we are, I think, too apt to throw away all our other arms, and attempt to rely wholly upon that, whereas, it is perhaps only serviceable in those cases in which other weapons fail. The matrix is to me a powerful auxiliary, but not my sole dependence.

We sometimes find it difficult to force the rubber dam between teeth that are in close contact. If a little soap (fine toilet of course) be wet, and rubbed upon that surface of the dam, which first comes in contact with the teeth, it is astonishing how easily it slips through. A friend first suggested this to me. He obtained it at second hand, yet it is fully warranted to be as efficacious as though originally discovered by the reader of this article. Strange to say the idea has not as yet been patented, and I give it this publicity to head off some prospective caveat.

From original defects, and the subsequent action of caries, Mrs. R—— had lost nearly the upper half of the crown of an inferior central incisor, causing great annoyance, not only from the disfigurement and imperfect articulation but from the difficulty of retaining fluids in the oral cavity. As she expressed it, "Her mouth leaked, she lisped, and besides she looked bad." The case presented these difficulties. The top of the remnant was nearly a level surface, and yet the tooth was so small that a restoration to the desired length would not be sufficiently strong, if only anchored by retaining pits upon its surface. Mack's screws were impracticable for the same reason—the extreme smallness of the tooth. Finally, after adjusting the rubber dam, I drilled a pit with my burring engine near the gum in each proximal surface, as deep as I thought consistent with the strength and vitality of the tooth. Then from the surface of the crown I excavated a furrow down each side of the tooth, till it communicated with the pit near the gingival margin; which pit was made slightly retaining in shape. A transversed stria across the top united the two. I commenced the filling at the pits, carrying it up to the surface of the crown on either side, and by means of the broader trench across the surface the two golden legs of my filling were united. To the broad, transverse bond, No.

60 annealed gold was securely welded, and thus the crown gradually built up. It cannot now be disturbed without either breaking both the golden legs or straps which support it, and which from the inherent tenacity of the metal is quite improbable; or by fracturing the tooth. I avoided the weakening of the latter by not drilling the pits upon the same line, but the one above the other.

The Microscope in Medicine and Dentistry.

BY D. C. HAWXHURST.

The microscope is just now attracting universal attention. Every earnest student of life in the department of either physiology or pathology, is at this time looking with peculiar interest to its revelations. The European press teems with the results of microscopic research. Our own publishers are beginning to give us books and periodicals on the subject. The general interest which microscopy has attracted in Germany may be judged by the facilities which her universities furnish for its study. In the great London University a thorough acquaintance with microscopy has been recently demanded of candidates for graduation. Our own colleges are fast moving in the same direction. This new instrument and method of research are becoming known even to the masses. Enthusiastic popular meetings are held in its interest, and over all the land microscopical societies are springing into existence.

While news of the achievements of this wonderful instrument are wafted to us on every breeze, let us examine what it has already accomplished, what it is now doing, and what it is likely to do to advance the art of healing. The time has come when dentists can no longer confine their studies to the teeth and associate parts. Normal vital action, the problem of disease, of growth and repair, histological anatomy, and indeed histological physiology of the whole organism, are our direct province. Our art demands of us an exploration of all the phenomena of life, though our gathered resources are at last to be centured upon a territory but little more extensive than the oral cavity. Dentists and physicians begin to realize that the microscope can greatly aid them, and is act-

ually necessary to an explanation of the mysteries of that vital action, which is a chief agent in the processes of healing. But they see also that it is something more than an aid to philosophical research; it is an every day necessity to the practitioner, and may lead to a much keener discrimination between similar and obscure forms of disease than can be made by the unaided senses.

This I take to be the attitude of the best minds in the two professions which have in charge the public health. Is it not then incumbent upon us to look to it that we do not fall behind these leading investigators who would open to us a new world of research and a new means of professional success? Let us inquire a little into the nature of the debt which medicine and dentistry owe to this most important of recent instruments of scientific research.

1st. To the microscope is due that great Cell-Doctrine, which is the basis of modern rational views of the phenomena of organic life. Without this, therapeutics in either medicine or dentistry could have had no sure foundation, since there could have been no true knowledge of the animal tissues and fluids either in health or disease. Our conception of the minute structure of the animal organism has been, therefore, literally wrested from the world of the unknown.

The science of histology, in its double aspect of anatomy and physiology, could have had no existence but for this instrument. For bodies below the five-hundredth of an inch in diameter are not perceived by the keenest natural eye, and the cell or organic unit is much smaller than this. These form-elements cannot therefore be seen, much less studied, until optical aid has expanded their area and rendered them visible. By an appropriate magnifying power they may be seen, their form, arrangements, and external characters made out, and their internal structure, movements and forces ascertained.

The immense importance of these brilliant discoveries, which have been made in animal physiology through microscopic research, cannot be realized until the discoveries themselves are considered and the vital laws toward which they point understood. It may then be seen that the microscope

has been to the physiologist the open door into a new world of strange forms and unsuspected forces. Entering this world the investigator observes phenomena, the bare existence of which he had never before suspected, and sets himself to study those vital laws, which would have been inconceivable previous to the introduction of the Cell-Doctrine into animal physiology by Schwann.

Through microscopic investigation a flood of light has been let in upon the constitution of every animal secretion and liquid. The blood was once regarded as fibrine and serum. There was absolutely no means of knowing that it is a transparent fluid, filled with billions of floating cells, both white and red, with the thousand interesting and significant facts that soon followed in the wake of this discovery. And that sublime spectacle which may be witnessed in the web of a frog's foot or a fish's tail, the vital stream sweeping impetuously along a multitude of anastomosing capillary tubes carrying white and red disks, could never have flashed its volume of instruction upon the brain of the physiologist but for the magnifying power of the lens. Previous to microscopic research, we knew little of the minute structure of enamel, little of cementum, little of dentine, little of the pulp, of secondary dentine or periosteum. We knew little of their relative life endowment, and little in fact of the minute structure of any organic substance. This meager knowledge of the normal states of tissue was of course a very poor foundation for any true theory of disease or rational method of treatment.

2d. The microscope has been equally active in bringing to light those deviations from normal structure, which are coexistent with disease. Long continued disturbances of function often result in minute changing of structure. These changes can in many cases be detected by a microscopical examination. Under the eyes of an army of competent investigators, such examinations have been instituted in almost every department of pathology. Though lacking that completeness and definiteness which time alone can give, these results are already of vast importance, as explaining many of the mysteries of pathological action, and as throwing greater ease and certainty into diagnosis.

As an instance of peculiar structure due to disease, the observations of Lebert may be mentioned. This distinguished observer describes certain characteristic corpuscular bodies in tubercle. Several other gentlemen have verified these observations, and have transplanted these tubercular cells to the skin of rabbits and guinea-pigs, which were afterward afflicted with tubercle, and in two or three months died. In like manner a specific living cell has been described on the mucous surfaces of the trachea in whooping cough patients, and has been repeatedly transferred to the respiratory surfaces of the rabbit, where catarrhal symptoms have ushered in the regular stages of a modified whooping-cough.

The peculiarities of situation in cancer have attracted much attention. Some observers assert and some deny that there is a specific cancer cell. It is not disputed however that a microscopical examination may determine the diagnosis, since in cancer there are characteristic deviations from normal development and arrangement of cells.

Among a large number of eminent microscopical pathologists, who accept the germ theory of contagious diseases, the claims of Dr. Sansom may be mentioned. This gentleman maintains that the diseases of infection are due to microscopic atoms of vital matter or germs, which when "transmitted by physical intermedia to a healthy organism, soon infest the entire body." The same thing, substantially, is stated by Dr. Wm. Budd, when he maintains that "the specific cause of contagious fevers is a kind of living organism." Prof. Tyndall says that there are the "strongest grounds for holding all contagious matter to be particulate, and further that the particles are to all intents and purposes germs." Dr. Hollier's discovery of a distinct form of fungus in the blood of typhus fever patients, which he regards as the cause of the disease; and Dr. Saunderson's communication, made this winter to the Pathological Society of London, in which he maintains that bacteria in the blood are the cause of pyemia, have a bearing in the same direction.

Perhaps it is premature to consider this question settled, while an observer as distinguished as Dr. Beale stands opposed to it. Many of the facts are undeniable since they

have been repeatedly verified by distant and independent observers; it is in their mode of explanation that we encounter differences of opinion. Dr. Austin Flint encourages the expectation that "microscopic researches in this direction may lead to developments of great importance in their bearing on our knowledge of the causation, the pathological character, and the treatment of many diseases."

It may be said that should germs or bacteria be proved to be effects or concomitant circumstances, either caused by the disease or made possible by the conditions brought in by the disease, and not primary agencies of morbid action they will yet hold an important place as a means of diagnosis. Thus, a great number of algæ and fungi have been described by different observers, some of which are characteristic, and which are therefore important diagnostic criteria of the disease which they accompany. A careful microscopical examination in some of these cases will fix the diagnosis hours earlier than could have been done without this important aid.

Among skin diseases, Dr. Austin Flint describes five varieties, which are distinguished by microscopic parasites that are characteristic, and which may be at once diagnosed by this peculiarity.

The discovery of the *acarus scabei* and the *trichini spiralis* have added to our knowledge of the diseases known as common itch and trichinosis. If symptoms are present which indicate the earlier stage of trichinosis, a microscopic examination of the pork last eaten may furnish corroborative evidence. Or, during a latter stage of the disease, the diagnosis may be rendered certain by harpooning a muscular fibre from the effected part and placing it under the lens. These and other facts indicate how important a part the microscope must play in our incoming era of medical investigation.

To finish the enumeration of such important diagnostic criteria as the microscope has revealed throughout the entire range of pathology, would be to write a book. This would be foreign to my present purpose, which is only to furnish a few hints to indicate the importance of the subject. Enough has already been said to show that the microscope is valuable beyond all danger of over-estimate to him who would

promptly detect disease, and discriminate between its various forms.

The physician or dentist who would keep abreast with the times, do justice to his patients, and contribute as he may by accidental observations to the general fund of physiological and pathological knowledge, should make the microscope as familiar and constant a companion as the excavator or the lancet.

"Six Year Molars."

It is refreshing in these times, when dental literature is not overburdened with good things, to notice, as we did in the January REGISTER, an article with the above caption, leaving proofs of signal triumphs in the preservation of the six year molars. Hitherto, many experienced practitioners of our profession, entertained serious doubts with regard to the practical utility of preserving these organs for any great length of time. But it has been reserved for later skill and more refulgent light from higher realms of dental knowledge, to guide us from the pathway of ignorance and error into one of truth and final triumph.

L. W. Munhall has thrown his spectroscopic beams upon this vexed problem, as would appear from the article to which we refer, and the result of his analysis it will be our purpose to examine.

Articles written in a logical form are universally attractive. Fact or theory supported by all the artfulness of logic are necessarily strengthened, and the inductions which follow, easy and natural. It is a great pity that contributors to dental periodicals, other than L. W. Munhall, do not adopt this convincing method in their compositions. But we tarry too long over these seeming trifles. Let us at once repair to the feast which L. W. Munhall has bidden us: "Two causes," he says, "explain the absence of six year molars from the mouth: first, ignorance and indifference of the parents; second, ignorance and indifference on the part of dentists." Clearly these are two similar propositions so far as parents and dentists are concerned, and both seem charged with the same moral turpitude of offense! Ignorance as here used is

not very specific, but employed in a very general sense indeed. Parents may be quite intelligent, yet lacking in information with respect to the preservation of their own and their children's teeth, and still would not fall into the category of being ignorant. On the other hand, a dentist whose holy mission is to save every wreck of tooth he sees in children's mouths may be the grossest ignoramus of the dental fraternity. "Out of the mouths of babes shall they be condemned." And the application of these inspired words can be made to dentists who attempt to save six year molars where caries has penetrated to the pulp cavity, with walls thin and badly broken away, with foreign accumulations adhering to the contiguous parts, and the age such as will not warrant protracted operations. Failures will outnumber successes even in the hands of good operators under such circumstances, is a view many take, and it seems well authorized. Of course, there are modifying circumstances, when the dentist should use his best efforts to save these teeth, but these will mainly depend on the age the patient has attained for dental operations, the general characteristics of the teeth, shape and formation of the dental arch, together with the occlusion of the teeth, whether the necessary labor should be expended in attempting to restore these molars. A neophyte in the dental practice can not put his metal to any better test than by applying himself diligently to a few of these cases, and record years afterward his victories.

Ignorance is too general a term to be applicable in the sense in which teeth are lost—at least, this seems to be so with the accumulations of knowledge in this direction, which is at the disposal of every practitioner. Now, to have every body educated and enlightened, including in each one's curriculum, anatomy, physiology, pathology, chemistry, and dietetics generally, so that every mother's son might secure good dentures, would be a most charming society. Unfortunately ignorance prevails. Nor will the time soon come when parents will know anything comparatively about six year molars, or knowing them will take the necessary care for preserving them. The avocations of people are too multiplied and their duties too exacting, to furnish much opportunity for acquir-

ing information respecting the teeth. Usually—there are exceptions—people have sense enough to employ the services of some dentist in whom they have confidence, and then follow his counsels. Nor is it held of high import that every dentist should turn missionary to the cause of his profession, and expound to each of his patients the sublime mysteries of dentistry, however worthy and tempting the field might be. Something rather too much of this is already abroad in the land. Information, pointed and pertinent, communicated quietly to such patients as may desire it, would be well enough, and should be cheerfully given. Beyond this, where some dentists include the whole cyclopedia of dental principles and practice, it is a waste of energy that might be better directed, and not bring reproach upon the profession. Medical practitioners of culture resort to none of these educational plans for the advancement of their patients, nor should dentists.

L. W. Munhall puts in substance a query of this sort: If the six year molars when decayed are extracted merely to give room in the future for other teeth, such a procedure results from ignorance or indifference on the part of the dentist. The fallacy of such a statement will be apparent when an experienced practitioner recalls numerous instances where good results have been attained by removing these teeth. The contracted circles of the maxillaries not admitting the regularity of these teeth, and the difficulties attending the expansion of them by mechanical means, assure us that some cases require this method of extraction as the best remedy that can be employed—"ignorance or indifference" to the contrary notwithstanding.

But we now come to a very interesting case—perhaps he may be some nice little Sunday-school boy, cited by our contributor. Here is his profile: "Herbert E——, aged 12, splendid intellectual head, high frontal and temporal bones, superior maxilliary good, inferior disproportionately small, with chin *retiring*." This good little boy had a bad and ugly tooth, which he took to some dentist, whose cool judgment condemned. Into the tender mercies of L. W. Munhall he then came; "the diseased bone was removed, carbolic acid and

iodine were placed into the devitalized pulp cavity, and the tooth filled with gold." A year transpires and the case is seen again, when L. W. Munhall pronounces "the teeth *doing as well as I could wish.*" Most wonderful! Such treatment beyond the beaten tracks of the old masters of the profession is a pleasure to record. Some people who operate on the teeth can be satisfied if the teeth they fill stay in a year, hence they pass judgment on their operations with confidence. There is plenty of time yet for Herbert to come to grief with a swelled molar, and the cervical walls of that filling to bear indications of leakage. Only wait. The difficulties of treating the pulp cavities of the lower molars with success would form an essay of surpassing interest even for the most skilled in our profession. The procedure is attended with something else than carbolic acid and iodine, remedies that have nearly become obsolete. Instead of grappling with each particular step of this most vital part of his treatment, L. W. Munhall has omitted the details, whereby the profession generally could have learned something. This is exceedingly to be regretted. Lastly, we come to the most gushing part of our contributor's article. He says, "he shouldn't hesitate to try and save teeth when they were destitute of bone-making material, decaying rapidly, were frail, and the patient himself hadn't enough phosphorus in his system to keep him in toe nails!" "Bully for him!" With such pluck as that in a fellow, he could buck his head against a stone wall, and never a brain would be knocked out. This sort of vim is good, and not likely to starve. We commend it. M.

Criticisms.

BY W. E. DRISCOLL.

That a large portion of the contributions to the dental journals are written without proper forethought and preparation, is generally admitted and deprecated. That a part of this class of writing calls for criticism and refutation for the credit of the profession, is also admitted. That the performance of this duty of criticism is an unpleaaant task, all know who have tried it.

That the editors of the dental papers can not, and must not be depended upon to do all this work, is evident from various reasons. They can not always afford to make the enemies that seem to be an unavoidable result sometimes of the fairest review of another's writing. It would in one case cripple the journal, or make enemies for the college that it was connected with, or injure the business of the firm that published.

If the party criticised would always confine himself to the subject or principle in question, there need be nothing unpleasant about such discussions. But if his case seems in jeopardy, he often takes the course the lawyer advised his student to adopt. That if the facts in any case in court should prove to be against his client, he must attack the opposing lawyer. Thus diverting attention from the badness of his case if possible. But such a course will not always win, and especially is it likely to fail in a discussion before a learned profession.

Where there is obviously no motive for a personal contest, one does not always see the necessity of a disclaimer to every sentence bearing upon the subject in hand. And experience has shown that it does not in every instance better matters to claim innocence of ill intent.

In view of these facts, I have concluded that whenever I encounter an article in our periodicals advocating a principle or process that I believe, or know to be erroneous, or ill advised, and that it will not be controverted or corrected without I do so, I shall perform the duty to the best of my ability, whether my conclusions are flattering to the criticised or not. Yet, always, I trust, in terms that will bear upon their face evidence of no unkindness toward any individual. And should my motives be misconstrued as they have been, I shall not condescend to notice any such attacks, believing that I would forfeit the respect of all right minded readers if I did.

Arkansas Whetstone.

A correspondent of the *New York Evening Post* gives the following interesting account of a visit to the famous whetstone quarries of Arkansas:

I paid a visit to the whetstone quarries, about a mile and a half from the village of Hot Springs yesterday. The stone is of extremely fine quality, and is superior to that found near Constantinople, the quartz seems being more infrequent. This whetstone rock is novaculite, and is one of the finest deposits known. The rock crops out on the side of the hill. The vein is worked ten or fifteen feet wide, and is in a coarser variety of the same stone. According to Professor Owen, formerly State geologist, it belongs to the millstone grit, and was once a simple sandstone, and by the permeation of heated alkaline silicious waters has been altered into nearly chemically pure silica. It resembles the finest quality of, and is even superior in whiteness to Carrara marble. From their physical appearance they can hardly be distinguished. The dip of the vein is about forty-two degrees. The quartz seams vary in distance apart generally about six inches, sometimes a foot. They vary in thickness from a hair to half an inch. The quarry was first worked by the present owner, Mr. Barnes, in 1843. He says that the quality is better as he descends, and that the siliceous seams widen as they approach the surface. Large quantities are shipped to New York. The finer varieties are used by engravers, while the coarser are used for bench tools. It is sold here for about one dollar a pound, finished up for use. The workings are very picturesque, branches being laid across the vein to keep off the sun; the rocks are stained very prettily in some places by iron.

The view from the quarries is very fine, and six miles off, the old Outchita quarries, of a similar but coarser stone, can be seen touched by the glow of the evening sun. These works are now abandoned. The deposit worked by Mr. Barnes seems to be inexhaustible.

A. V. C.

PROCEEDINGS OF SOCIETIES.

Semi-Annual Reunion of the Seventh and Eight District Dental Societies of the State of New York.

The Seventh and Eight District Dental Societies cover nearly the ground which was occupied by the old Western New York Dental Association. Upon the formation of the new societies this territory was, in accordance with the law, divided; and at the last meeting of the old association bitter regret was expressed by many of its members, at the necessity which arose of sundering the strong ties, which so closely bound heart to heart. New professional families were to be formed, and the old familiar faces were to be seen no more, only as occasional visitors at meetings when formerly they had been loved and honored members. So earnest seemed the desire to meet occasionally as brethren that provisions were made in the by-laws of each of the new societies, for the holding a semi-annual meeting together, alternately in the seventh and eight districts, and providing that in whichever district it should be held, the officers of that society should preside at the union meeting, and its members pay all the necessary expenses.

The Fourth Annual Reunion was held in the city of Rochester, commencing on Tuesday, October 29, and was called for three days. The union of two district societies, the members of which are bound together by such strong fraternal ties, makes a large meeting; and as there is very little business to be transacted, the time is always wholly devoted to the legitimate objects of the gathering. Great credit is due to the officers and members of the Seventh District Society, more especially to its Secretary, J. Edward Sine, D. D. S., for the untiring labors which made of this one of the most pleasant and profitable sessions ever held in western New York.

The meeting was held in the Common Council Chamber, at the Court House, and was called to order by the President of the Seventh District Society, Dr. A. G. Coleman, of Canandaigua.

Dr. Callender, of Toronto, President of the Ontario Dental Society, with Dr. Chittenden, of Hamilton; Dr. Relyea, of Belleville, and Dr. Wolverton, were presented as delegates from the Canadian Provinces, and were duly voted all the privileges of the floor.

The first paper read was entitled "Dental Progress," by Dr. E. S. Holmes, of Grand Rapids, Michigan. It was an able article, but the discussion brought out little that was new.

Leon F. Harvey, M. D., of Buffalo, then read a paper upon Facial Neuralgia, which called out an animated discussion.

Dr. Bristol—Said that he had been in the habit of making some simple local application, and then discharging the patient. But lately, he had himself been suffering from that distressing malady, and now he had a more positive knowledge of its horrors, and felt called upon to give his patient the most careful attention.

Dr. Chittenden—Thought its treatment was almost entirely experimental.

Dr. Barret—In answer to a question, said that of all the diseases to which we as dentists were called upon to minister, facial neuralgia was one of the most difficult to diagnose. It might arise from local irritation, or from constitutional or functional disturbances. It was an affection of the sensor filaments of the nerve, and should the cause be back of the Casserian ganglion, it might be difficult or impossible to cure. He should first search carefully for any local disturbance, and if there be such, remove the irritating cause. Sometimes periosteal inflammation is the cause of the pain, and in such cases would prescribe *mercurius*. At other times the source of the trouble is from exostosis. If constitutional treatment be required, he commonly referred the patient to his medical adviser. He then introduced J. N. Anderson, M. D., of Rochester, and moved that he be accorded the privileges of the floor.

Dr. Anderson returned thanks for the honor, and in the course of his remarks upon facial neuralgia, said he thought it most commonly referable to constitutional causes, but from his never having paid particular attention to local irritations in

the oral cavity, he presumed he might sometimes have been mistaken in his opinion, and that the advice of an intelligent dentist might frequently have assisted him in making out a difficult case. In females he had found uterine affections a prolific source of this disease.

Dr. Gifford—Said that he lately had a case, where one tooth after another seemed the seat of intense and continuous pain, and each in turn was extracted, only giving temporary relief. He finally scarrified the gum, and treated with aconite and iodine, but without a permanent cure. Each of the teeth as extracted showed a marked case of exostosis.

Dr. Barrett—Said that here, it seemed to him, the trouble was periosteal, and indicated mercurius. Exostosis was hypertrophy of the cementum, caused by mal-activity of the perio-dental membrane. From some cause it was overstimulated. We know that *mercurius virus* has a specific action upon all periosteum. He should therefore in such cases prescribe it with entire confidence, his experience justifying him in doing so.

Dr. S. B. Palmer, of Syracuse, was introduced to the meeting, and voted all the privileges of the floor. He said that in exostosis he had generally found the alveolar process partially absorbed.

Dr. French—Had been accustomed in violent cases of neuralgia to use hypodermic injections of morphia.

Dr. Wilson—Said that in one case of neurlagia, which seemed at times to radiate from one locality, upon extracting the tooth, he found instead of exostosis an absorption of the root. Perhaps Dr. Barrett was right, and this was mal-activity in the other direction.

Dr. Callender—Said that after trying various remedies with only partial success, he had applied to practicing physicians, and found them as ignorant as were the dentists.

Dr. Sine—Said that such difficulties might sometimes be traced to cutting the third molars.

After considerable desultory discussion, the subject was declared closed.

Dr. S. B. Palmer, of Syracuse, then read a paper, entitled

"Dental Probabilities," and for which he received a unanimous vote of thanks.

The second day's session opened with miscellaneous business.

Dr. Southworth—Presented a sample of gold filling by means of Dr. Macks gold screws.

Dr. Coleman—Claimed the use of gold screws in filling teeth long before they were "invented" by Dr. Mack.

Dr. French—Had also used them some years ago, and showed that their application was not as new as their patentee claims. Some rather severe remarks were made concerning the patenting of principles and appliances, which are in some cases nearly as old as the profession, and the attempt to force those who have been using them for years to pay a royalty to some conscienceless individual, who obtained his "invention" at second hand.

A valuable paper upon "Dental Education," by Prof. Barker, of Philadelphia, was read, and drew out considerable discussion.

An essay upon "Abnormal Dentition," by Prof. Truman, of Philadelphia, was read, and elicited much applause.

On motion the discussion of this paper was postponed, to listen to Dr. Barrett's paper.

Dr. W. C. Barrett, of Warsaw, then read an essay upon "The Anatomy and Histology of the Deciduous Teeth," illustrated by diagrams upon the blackboard, and by infant and foetal skulls and bones.

Dr. Wilson—Thought this subject should receive our attention, not only from the value of the paper but from the importance of the subject. To thoroughly understand how to treat diseases of the teeth, it is necessary for us to know their structure.

Dr. Bristol—Asserted that the dental practitioner will not meet with success in filling "chalky" teeth, without so changing the diet of the patient, as that the deficiency of the proper proximates principles shall be supplied by nutrition, Instanced the case of a young man formerly a patient of his, and whose teeth he found it impossible properly to fill, but upon whom a change of residence, habits, and diet,

wrought such a difference, that subsequently when he fell into the hands of the author of the paper under discussion, the nature of his teeth had been so altered that they were successfully filled, and are to-day not only beautiful in appearance but sound and likely to remain so.

Dr. Coleman—Cited the case of one of his own children, and asked the essayist what he would do when, as in this instance, the cuspids were erupted entirely outside the arch.

Dr. Barrett—Said the discussion was getting outside the limits of his paper, but perhaps it was as well to give it this latitude, and replied, that from what he knew of the case, he presumed the child had inherited from one parent large teeth, and from the other a small though perhaps well-shaped jaw.

Dr. Coleman—Remarked that this was the case.

Dr. Barrett—Under such circumstances would extract some teeth; either a bicuspid or the sixth year molar.

Dr. Southworth—Advocates the spreading of the arch, and objected to the extracting of any teeth.

Dr. Wilson—Acknowledged the soundness of Dr. Barrett's theories generally, but objected to extracting the six year molar. He believed the majority of cases of irregularity was caused by premature extraction of the deciduous teeth.

Dr. Barrett—Said that this was a case where there manifestly was not room for all the teeth. The arch did not need spreading as it was now perfectly symmetrical, nor could its form be altered without detracting from, instead of adding to the proper regularity of the features. It then only remained to question which tooth to remove. He thought if the first molar be extracted early enough, the requisite space might be gained, and the wisdom tooth subsequently become a serviceable organ, which in such cases is so apt to be the source of trouble. He did not by any means recommend the promiscuous extraction of six year molars. We would however sacrifice them when the salvation of more important teeth depended upon it.

Dr. Relyea agreed with Dr. Barrett in extracting six year molars when they were manifestly imperfect, and stood in the way of the development of better teeth.

Dr. Daboll—Said that to be successful in the treatment of teeth it is necessary for the dentist to have charge of them, not only from earliest childhood, but his opinion and advice should be sought by the mother during gestation. He prescribed the lacto phosphate of lime when rapid disintegration of the teeth is going on.

Dr. French—Said that during gestation the morbid craving of the appetite was sometimes uncontrollable, and required very judicious advice, not only from the dentist but from the physician.

Dr. Barrett—Remarked that chemical doctors were a failure the world over. It required something more than bricks and mortar to build a house. Vitality, the great architect which dominates the whole process, will not take the materials ready made, but must prepare them in her laboratory—the human system—specially for each case. All we have to do is to furnish the material in the food. In anything like a normal condition the appetite craves just what is needed to build up tissue. Pregnancy is in one sense an abnormal condition; yet he would allow the utmost possible limit to the appetite of the expectant mother. The diet must not consist of wholly farinaceous food. Those articles must be taken, from which can be assimilated such principles as are needed to supply the imperative wants of the fœtus, that in its famishing condition it may not prey upon and rob the system of the mother.

Dr. Chittenden—Agreed with the previous speaker, that the phosphates were of but little service when administered directly, as they are not properly assimilated. He recommended plain diet, coarse food, milk, and that best of all foods, oatmeal.

The subject was energetically discussed at length by Drs. Callender, Edington, Wolverton, and others.

It was voted that immediately after the adjournment of the session the society accept the invitation of Mr. Powers, to visit the observatory connected with his block, which was done to the great pleasure of the members.

The afternoon session opened with a paper upon "Diseases of the Gums," by H. S. Miller, of Rochester.

Dr. Walter—Thought that tobacco had a malign influence upon the gums, and was frequently the cause of their puffy, turgid, inflamed condition. The nicotine of the tobacco was a virulent poison, and we saw its effects plainly in the universally unhealthy condition of the tobacco chewer's mouth.

Dr. Barrett—Said in answer to a question, that he apprehended that the main cause of the difficulty in such cases was the necessarily filthy condition of the mouth of the tobacco user. Especially might such appearances be seen about the place where he usually carried his "quid." The tissues of the mouth became so habituated to the action of the nicotine of the tobacco, that like the stomach of the confirmed arsenic eater, poisonous symptoms were only developed upon leaving off the habit.

Dr. Woodward—Said that although now a man of middle life, his wisdom teeth had never been erupted, and although not relative to the subject under discussion, he would like to inquire what was the probability of their yet coming.

Dr. Barrett—Said that perhaps when he got to be an old man, and all his other teeth were gone, the missing wisdom teeth might make their appearance, and then every one would wish to be gaping into his mouth, to see a remarkable case of third dentition. All the newspapers would herald it, and he would become famous.

The discussion was continued by Drs. Bristol, Chittenden, Edington, Coleman, Requa, and others.

An essay upon "Sections and Sectional Fillings," was read by Dr. J. Edward Sine, of Rochester. It was a demonstration of the advantages of what is commonly denominated cylinder filling; and elicited considerable discussion of the advantages and disadvantages of this system of performing operation, but nothing especially new was brought out.

An opportunity was given for the exhibition of appliances.

Dr. Southworth—Exhibited a new operating stool, with movable foot rest, intended to supply a want long felt, of a convenient stool upon which the operator may sit while at

work over the chair.

Dr. Requa exhibited the Coraline base for artificial teeth.

Dr. Lewis exhibited the Elliott suspension burring engine.

Dr. Woodward exhibited a new automatic plugger, to be attached to any of the burring engines in use.

Some other appliances were exhibited, but nothing which was new.

Drs. Barrett, Daboll, and Southworth, of the Eight District, and Drs. Walter, Coleman, and Wilson, of the Seventh, were appointed visiting delegates to the Canada Dental Society.

A hearty vote of thanks was tendered to Profs. Barker and Truman, of Philadelphia, and to Dr. E. S. Holmes, of Michigan, for the valuable papers which they respectively had contributed to instruct and interest the dentists present, and the Secretary was instructed to convey the same to the gentlemen named.

The evening was devoted to the use and study of the microscope, and a lecture upon the subject was delivered by Charles Forbes, of the Rochester Free Academy. At its close some time was devoted to the examination of sections of bone, enamel, dentine, cementum, and of abnormal growths of the same, some prepared and mounted by Dr. Forbes, and some by Dr. Barrett.

At the close of the session the meeting adjourned, to meet in Buffalo, the last Tuesday in October, 1873.

Discussions at the Seventh Annual Meeting of the Ohio State Dental Society.

THE BURRING ENGINE.

Dr. W. M. Herriott observed that the use of the burr for excavating teeth dated back a great while. A variety of forms had been given to handles used in connection with the burr-drill but it was only recently that a machine had been developed to run the burr and make it practical for dental uses. He gave preference to Morrison's engine, because it was noiseless and easily controlled.

Dr. B. F. Rosson had had no experience with any burring engine except Morrison's, and of course could not speak for or against any others. He had no doubt many others were valuable. His experience with Morrison's had been very favorable. He had been enabled to accomplish results with this machine that were satisfactory to himself. It is certainly a great labor-saving machine. He concurred in the remarks of the gentleman in reference to the temptation to sacrifice a portion of the natural teeth. He believed he had been guilty of cutting away more from the teeth than was actually necessary in some cases, because it was so much more easily done than by the old manner that one could hardly stop when enough was cut away. He was however, very favorably impressed with the Morrison machine. A portion of a machine would be exhibited to them by Mr. Arbaugh, of Piqua, having water for its motive power, with which he thought they would be favorably impressed, when they examined it. In regard to the Morrison engine he had but one objection—he was going to say two: one being that of having to move it out of the way sometimes, but that was so trifling that he believed he only had one serious objection to it; that was that it did not want to work in his absence.

Dr. D. R. Jennings said he supposed all were aware that they could not cut enamel, if an attempt is made to cut or file it it almost always breaks. The only way is to grind it down with the burr if you wish to cut it down. The burr is nothing more nor less than a set of little chisels which chip it off, under a glass this can readily be observed. It is from the form of the burr and the manner of applying it that it accomplishes the work. After cutting down to the enamel with a chisel, by then inserting the point of this burr you can run it right under the enamel, and chip it off very nicely. There is no trouble about cutting the teeth down too much. He thought the Morrison engine one of the best, but thought all would like the electric engine when they saw it in use.

The pneumatic was less difficult to move around, and furnished all the force necessary. He did not see why some

wanted to apply so much force; force or power was not what was so much needed; it was the adaptability, and to know how to use them properly. If the operator bears on quite hard it may heat the tooth much more rapidly but may not cut much faster. A man with a file does not cut so much by the force he puts on as by the manner in which he uses it. So with the burring engine.

Dr. L. Buffett had little experience with the burring engine and could not advocate one more than another. Each dentist should use the instrument that suited him best. As a labor-saver the burring-engine is of great service; he could make an excavation of a given size with it, in perhaps one-third the time it would take to accomplish it in the old way. In large operations in trimming large crown fillings he formerly found himself pretty well tired out, and unable sometimes to finish the job at one sitting. Now it was really easy to trim down the fillings and complete the work. So for as the objection is made to the burring engine tearing the gold, he would say if it tore the gold it ought to be torn.

Dr. D. R. Jennings did not wish to be misunderstood with regard to the use of the burring engine. He held that in excavating with burrs the excavation is smoother, the walls nicer, the cavity in better shape, cleaned out nicer, and the teeth less liable to decay. It was no detriment to the teeth to be thus thoroughly cleaned out, and was better for the patient. The sacrifice of the teeth in such a case was no sacrifice but a real benefit.

Dr. W. M. Herriott said, lest some might suppose he was trying to advertise a particular kind of machine, he simply spoke of the Morrison machine as one that seemed to suit him the best. As Dr. Buffett had said no two men have exactly the same ideas concerning such things, and they must reach the same object in different ways, by using instruments somewhat different. There are of course objections to the Morrison machine. There is a machine now being gotten up by a Mr. Green, not yet perfected, that is valuable on account of being easily controlled. The pneumatic engine has its advantages in being easily placed in different directions.

and used in ways that the Morrison engine cannot be used. In regard to cutting the teeth away too much, he referred to the discussion of this matter at the meeting of the American Dental Association last summer at Niagara, where two prominent members differed; one advocating the plan of cutting away on the outside so that the gold would show, and the other advocating the idea of cutting away on the inside, thus saving the external form of the tooth, and showing that rather than the gold. He believed with Dr. Jennings that it was best to cut away, cleaning the teeth out thoroughly and perfectly.

In using the burr in cutting down fillings there is danger of breaking the enamel, and for that reason great care should be exercised, and the burr not be allowed to come in contact with the fillings, and the very small points only should be used in connection with the engine.

Dr. Siddall said he had been using a burring engine for a number of months, and liked it very much. He found one difficulty in using it which he desired to know how to obviate, that was where it was run very rapidly, as it sometimes must be, there is a great deal of heat produced, so much so that he had to withdraw it frequently or use it very slowly.

Dr. W. M. Herriott—Don't use it so fast as to produce the heat.

Dr. Siddall—It don't cut much then.

Dr. Herriott—Use sharper burrs.

Dr. J. H. Warner had used the Morrison engine for three months, but found no way to obviate the heat except to use it more slowly, as suggested by Dr. Herriott.

Dr. C. R. Taft said every one who had used the burr knows of course that if put on a large gold filling, and held there continuously, it would produce considerable heat. He had been in the habit of holding it off the teeth perhaps half the time; in that way it had a chance to cool off. It might be objected that this was a waste of time; but the time lost will not amount to much; and by thus keeping it off the tooth one-half or one third of the time, the difficulty complained of would be entirely obviated.

Dr. W. M. Herriott wished to say in this connection to those who had not used the engine—as those who had used it knew it to be true—that they would by its use save a great deal of pain to the patient, because there was less power required than with a hand drill or burr, or excavator, and also less pain because so much more speedy in its operation.

Dr. B. F. Rosson would like to encourage all the members of the profession who had not already made use of the burring engine to do so. He endorsed all the gentlemen said with regard to its lessening the pain of the patient. Of course the heating must be obviated or that would produce pain. His experience for the past four or five months had proven to him, that so readily and quickly are the operations performed by this means that the patient does not become weary. All know that we can sit down under an operation and tolerate the pain for a few minutes, but when to complete that operation an hour or two hours are required the patient becomes weary. With the Morrison engine—and he did not wish to advertise it more than others—but in his use of it he knew he could greatly lessen the pain to patients.

Dr. I. Williams found it admirably adapted to open up pulp cavity.

Dr. Gray said for polishing it was perfectly charming; also for cutting solid dentine. He had used it for five months, and could not consent to do without it.

Dr. D. W. Clancy found great difficulty in getting the burrs to run true. He always adjusted the rubber dam before commencing an operation.

THE QUIZ, Wednesday Evening, Dec. 4, 1872—Conducted by
Dr. W. M. Herriott.

Dr. Herriott in a few introductory remarks announced that the quiz for the half hour allotted to it would be conducted with reference to the first topic discussed in the afternoon—The Burring Engine.

Dr. ———It is claimed, I believe that with the burring engine sensitive dentine can be excavated without pain. I would like to know why.

Dr. Herriott—In talking upon the matter this afternoon it

was said that sensitive dentine could be excavated with it with less pain, not without pain. It is, I suppose, on this principle, that if a tooth be hanging to the gum, if it be pulled slowly, it will be more painful than if removed at once; or if we undertake to puncture the flesh or interfere with the nerves of the flesh, anything that will do it instantly or rapidly will produce less pain than if the operation be slower. It is by the quick motion of the burring engine, as I understand it, that the pain is lessened in excavating dentine. As remarked this afternoon, the burr drills are simply a succession of chisels in a revolving position, and the cutting by them is done so rapidly as to produce less pain than by the slower motion of the hand operator.

Dr. B. F. Rosson thought perhaps the lessening of the pain was due to the fact that with the use of this instrument, less surface was run over at the same time.

Dr. Herriott admitted that this might be another cause of the lessening of the pain, and also because there was less pressure necessary with the use of this instrument than with the hand drill.

Question by a member—What is the best appliance to be used to polish a filling after the burring engine has been used?

Dr. Buffett—I should use a little felt wheel or a wheel made of leather, or a wash made of pumice, and finish it up with a little whiting, or with rouge, if I wanted to make a very nice finish.

A member—I have used leather, but found that as soon as it gets wet it softens down out of shape.

Dr. Buffett—Take the very hardest kind of sole leather.

He remarked in regard to burnishing, that you can not burnish anything with great pressure. You can scratch it, but can not burnish it.

Dr. Herriott—Dr. Harroun what difficulties do you find in the use of the burring engine as an excavating machine?

Dr. Harroun—That is a pretty broad question, to take it all around. The main difficulty I find is the heating of the tooth by the motion of the instrument—at least this is the main

trouble my patients complain of—the only sensations they repudiate. The only difficulty I have had in making excavations is breaking the force of the instrument. I never had any success with what is called the back action, from the fact that I did not have any little burrs sent me with mine. I find some difficulty in getting it into some portions of the mouth especially in the lower jaw. I do not know that I find any particular difficulty in the general shape of the excavation. I don't depend upon the burring engine for the final shaping of the cavity. I use the burr only in cutting down portions of the enamel in order to make the walls more firm and solid to pack against.

Dr. Herriott remarked that in the discussions on the subject, at which Dr. Harroun was not present, it was suggested that the heat referred to could be obviated by using the engine more slowly, or by frequently ceasing its motion.

Dr. Harroun—I obviate it in another way. I use a spring that works easily, keeping it in the left hand, letting a drop of water fall upon it occasionally. I can work that way rapidly without pain to the patient.

Dr. C. R. Taft suggested that in the use of the burring engine, it wanted to be run rapidly, so as to cut quickly; but the operator should not bear on with great force. It would not cut as rapidly when thus bore on heavily, as if it ran rapidly and touched lightly.

Dr. Harroun—I noticed where there was some very sensitive teeth, so that you could hardly touch them with the instrument without making the patient scream, that this sensitiveness was almost entirely gone after I began to use the instrument. I would like to know whether the heat produced by the use of the instrument obtunded the sensitiveness. I had an idea it did.

The conductor of the Quiz requested Dr. L. Buffett to give his opinion in regard to this question.

Dr. Buffett—I would answer that you would not obtund it by any heat you would bring upon the teeth. If the burr is run rapidly and touched lightly, the heat thus produced I don't think would cause any pain.

Question—Would it allay the pain?

Dr. Buffett—The more rapidly you can run the engine, and keep the temperature low, the less pain there will be. If however it is run rapidly and produces much heat, it will give pain of course.

Dr. Rosson remarked that Dr. Blount, of Springfield, stated before the Miami Valley Association, that by the use of carbolic acid, an abscess might be opened without pain. Dr. Rosson said he had no experience in the matter himself, but thought it worthy of being mentioned here.

The time for this exercise having expired, the discussion on the second topic was resumed.

(TO BE CONTINUED.)

The Brooklyn Dental Society.

The fifth annual meeting of this society was held on Monday evening, October 7th, 1872. The President, Dr. A. H. Brockway, in the chair.

After the usual preliminary and general business, the association proceeded to the election of officers, with the following result. (See card)

The affairs of the society were shown to be in a most prosperous condition.

The Dental Infirmary so recently established by the Society is no longer an experiment, but a pronounced success.

Much interest has been manifested in the clinics at the infirmary, many of which have been most instructive.

The thanks of the society were tendered to Dr. W. H. Atkinson, for the valuable services rendered by him in clinics the past year.

The meeting was one of interest and pleasure, followed by a sumptuous collation, provided by the retiring President.

C. P. CRANDELL, Rec. Sec.

EDITORIAL.

Gutta Percha.

The practicability of substituting vulcanized gutta percha for hard rubber for dental plates is no longer a matter of uncertainty: it is an established fact. About one year ago Dr. E. Hale jr., of St. Louis, made a series of experiments with gutta percha, with the view of determining its availability as a substitute for rubber for artificial dentures. Such was his success, that in July last he became fully convinced that it was entirely feasible, and since that time he has been using it largely in practice: samples of dentures, the plates composed of vulcanized gutta percha, made by Dr. Hale, was exhibited at the American Dental Association, at Niagara Falls, at its last meeting. We have just received a communication in which Dr. Hale says, "It is a complete success, and the profession in this city (St. Louis) and vicinity, are using it to the exclusion of rubber." To Dr. Hale is certainly due the regard and appreciation of the profession for his efforts in this direction.

During the last two months quite a number in the profession have been experimenting with this material; and many of them report with very satisfactory results.

Two objects are sought by these experiments, viz: to obtain a cheap base for artificial teeth that is better than rubber, and to thwart the Dental Vulcanite Company; both very commendable, and worth working for.

It was demonstrated twelve years ago that gutta percha could be vulcanized as well as rubber, but the Goodyear patent embraced it as well as rubber, and it was not then regarded as better than rubber, and being under the same embarrassment its use was discontinued, and it was not introduced to any considerable extent.

Gutta percha is not included in the Cumming's patent, or at least it was not a short time ago; it probably will be ere long!!

Southworth's Operating Stool.

We have in use one of Southworth's operating stools, and take pleasure in recommending it as the best thing of the kind offered to the profession. It is very convenient; it has a range of elevation of the seat of eleven inches; there are two foot rests each separate from the other with a range of elevation of seven-teen inches; these changes make it suitable for the use of any

one. This is a fixture that every operator ought to have with his chair. Most operators stand while operating, but very many of them do so because they have no convenient arrangement for sitting. All operators would find it convenient and a great relief to sit occasionally whilst operating; and we doubt not many would sit much more with such an appliance as this. And in its more general use there would without doubt be a mitigation of some of the affections to which dentists are so much subject, with which many in the profession are but too well acquainted without a mention of them here.

We would advise every dentist to procure some arrangement by which he may sit occasionally, at least, while operating, and there is nothing as yet before the profession that will at all compare with Dr. Southworth's stool.

Ohio Dental College—Spring Course.

The second spring term in this Institution will be opened on Tuesday, April 1st, and continue till June 1st.

There will be six lectures each week, one each day including Saturday. The remainder of the time will be devoted to clinical instruction and demonstration.

The course will be conducted with the view of giving the greatest amount of practical instruction in the shortest time; and will be especially adapted to the practitioner, who has been long enough engaged in the profession to know his weak points, and to be conscious of the fact that some assistance would do him good.

This course will be in charge of a corps of competent instructors.

The same text books are used as in the regular course.

All who have instruments for operating or tools for the mechanical departments should bring them.

Tickets for the course, \$30.00.

There is no degree conferred from this course, neither does it answer the requirements of a course for graduation. We shall be pleased to receive an early notification from all who propose to attend.

J. TAFT, Dean.

Mississippi Valley Dental Association.

The twenty-ninth annual meeting of the Mississippi Valley Dental Association will be held in the Ohio Dental College, beginning on Wednesday, March 5th, prox., at 10 o'clock A. M., and continuing three days.

ORDER OF BUSINESS.

- 1st. Calling the Roll.
- 2d. Reading the Minutes.
- 3d. Reports of Standing Committees—Executive Committee—Committee on Membership—Committee on Ethics.
- 4th. Reports of Special Committees.
- 5th. Election of Members and Payment of Dues.

ESSAYS AND DISCUSSIONS.

SUBJECTS—1st. Dental Legislation: Is it practicable? What benefits to the public and the profession may be expected by enforcing such laws?

2d. Artificial Dentistry: Should it be practiced as a specialty? What may be done to raise the standard of operations in this department?

3d. Filling Teeth: What may the patient reasonably expect shall be accomplished by the operation?

4th. Methods and materials most suitable to obtain the best results in filling teeth.

5th. Dr. Arthur's method of treatment and prevention of decay of the teeth.

6th. Conservative treatment of exposed or diseased dental pulps.

7th. Diseased conditions of the soft tissues of the mouth—their pathology and treatment.

8th. Dental Fees. What rules should govern the dentist in estimating the value of his professional services?

9th. The Dental Office. Ventilation—Light—The Use of Magnifying Lens.

10th. The use of mechanical power in operative dentistry.

Members are earnestly requested to prepare essays and papers to be read at this meeting. Those relating to the question under discussion will be read upon the introduction of the subject."

The election of officers will take place at 11 o'clock on the third day.

A large and interesting meeting is confidently expected, and a general invitation is extended to all to be present.

H. A. SMITH,	}	<i>Executive Committee.</i>
I. KNAP,		
W. P. HORTON,		

FRANK A. HUNTER, *Secretary.*

Board of Examiners.

There will be a meeting of the State Board of Dental Examiners in the lecture room of the Ohio Dental College, Cincinnati, on Tues-

day, the 4th of March prox., at 10 o'clock, A. M. It is desirable that all who wish to meet the Board will be promptly on hand at that time.

College Association.

The annual meeting of the Ohio Dental College Association will be held in the College on Tuesday, March 4th, prox., at 2 o'clock P. M.

It is very desirable that there be a full attendance of the members. Annually the institution ought to receive the special attention of every member of the Association; then let no one be absent who can possibly be present.

A Trial of Fifty Years.

The New York *Observer* has passed through the ordeal, and starts out anew on the second fifty years with a larger list of readers and more numerous friends than ever. Such a steady course of prosperity is unexampled, and inspires confidence. We heartily rejoice in the great success of a paper which has always advocated those sound principles that underlie the foundations of society and good government. Orthodox in the truest sense, both in Church and State, its influence is always good. We see its publishers propose to give to every subscriber for 1873 an appropriately embellished *Jubilee Year-Book*. Those who subscribe will have no cause to regret the step. \$3 a year. Sidney E. Morse & Co., 37 Park Row, New York.

Obituary.

DIED on the morning of January 2d, at 4 o'clock A. M., Dr. L. A. Hendricks, of Milford, Ohio, in his 47th year, after a severe and lingering illness.

Dr. Hendricks was educated for the medical profession, and engaged in its practice for several years, and with very marked success. About fifteen years ago he took a thorough course preparatory to practice of dentistry, since which he has been engaged in dental practice, except whilst he was in the army, which was most of the time during the war. During this time he endured great hardship; and doubtless there contracted the germs of that disease by which he was finally cut down. He has for most of the time since he left the army been an invalid.

Dr. Hendricks was a kind-hearted, genial, unassuming, Christian

gentleman, who by these virtues and his talents commanded and received the respect and love of all who knew him.

In his demise, the profession has lost a noble member, society a good man, and his family a loving husband, and a kind and indulgent father.

May such virtues as he possessed be largely imitated.

Obituary.

Died on the 4th inst., at 6 o'clock A. M., Dr. Henry Schmidt Schaller, in his thirty-seventh year, at his late residence in this city. He was born at Constanx, Germany, and came to this country in 1855.

He was a graduate of the Philadelphia Dental College, and has practiced his profession in this city during the last ten years.

He was held in high esteem by all who knew him.

The following action was had by the profession of this city upon learning of his death.

At a meeting of the dentists of this city, held at the office of Dr. A. Berry, on the 5th instant, the following resolutions were adopted :

"WHEREAS, We have heard of the very sudden and unexpected death of Dr. H. Schmit Schaller, of this city, with deep regret and sorrow ; and

"Whereas, By this visitation of Divine Providence, we are deprived of the society of our late brother and associate, we consider it proper and right to give such expression of our feelings as are appropriate to the occasion.

"Resolved, That in the death of Dr. Schaller the profession has lost a worthy and honorable member, and his loss will be deeply felt by all who knew him.

"Resolved, That we tender the stricken family and friends our heartfelt condolence and sympathy, and express the sadness we can not but share with them.

"Resolved, That a copy of these resolutions be sent to the family of our deceased brother, and that the profession in this city attend the funeral in a body.

"H. R. SMITH, Chairman.

"J. L. TAYLOR, Secretary.

THE
Dental Register.

VOL. XXVII.]

MARCH, 1873.

No. 3.]

COMMUNICATIONS.

Dental Jottings.

BY H. L. SAGE, D. D. S.

Abscess of the Cheek Produced by the Eruption of an Inferior Dens Sapientiae

Mr. D—— (teacher) presented June 24th, 1872, with jaws very nearly closed, barely admitting the extreme point of the forefinger.

Right cheek much swollen, and very hard from the infiltration of lymph—the portion in front of the parotid gland, and about opposite the point of antagonism of the second and third molars, being involved.

The anterior third of the grinding surface of the right inferior dens sapientiae, was just visible, the remaining portion being overlapped with gum, and the crown presenting towards and against the posterior proximal surface of the second molar.

The left inferior wisdom tooth presented about the same progress in eruption, though, perhaps, a trifle more advanced, but has not produced marked irritation.

The remaining teeth are regular, firm, sound, dense, and very close together.

Pressure on the swelling from the inside of the cheek, which could be made with a thin, flat instrument, (for instance, the handle of a pearl-handle mouth glass) caused a considerable discharge of pus, from the gums, covering and overlapping the buccal and grinding surfaces of the tooth.

The history of the case is as follows: In January, 1868, while the patient was in Iowa, the trouble commenced by inflammation and soreness of the part, with difficulty of deglutition, which resulted in nearly closing the mouth, leaving, when opened as far as possible, a space between the cutting edges of the incisors, of only an eighth of an inch—the inflammation lasting several weeks. In the summer of 1871, the same trouble occurred, but with less severity, and was of shorter duration. In March 1872, a slight attack of the inflammation recurred. Before calling on me in June, 1872, the time of the fourth attack, the patient consulted a physician, who affirmed that a tooth was not the cause of the swelling, though he was unable to make a definite diagnosis of the case. Subsequently he thought it might proceed from an “ulcerated tooth.” Another physician being consulted, could not locate the cause of the swelling.

My diagnosis was, that this chronic case of retarded or resisted dentition, caused by the want of room between the ramus of the jaw and the second molar, produced irritation and inflammation of the integuments about the tooth, which involving the looser, or more vascular cellular tissue of the cheek, caused the greatest tumefaction therein, because of its more easy and rapid infiltration with lymph, than the contiguous and less vascular portions more immediately affected.

The great resistance offered to the eruption of the tooth, had, at previous times, caused inflammation only in the muscles or tissues, which are usually involved in such cases, and which terminated in resolution, but had, during the last attack, passed on to suppuration, the pus, perhaps, burrowing along under the fascia, until it reached the vascular tissues of the cheek, therein locating and circumscribing the swelling—the tense and indurated state of the masseter, and other mus-

cles and integuments, also preventing the opening of the mouth. That the swelling, though situated quite a distance from the exciting cause, was the result of irritation, produced by the resisted eruption of the dens sapientiæ, would seem apparent from the fact that pressure upon it, caused a discharge of pus between the gum and the tooth, about the buccal portion. Or the inflammation may have been sympathetic, i. e., the abscess of the cheek, disconnected from the discharge about the tooth, may have been dependent upon the same exciting cause.

When my attention was first called to this case, it seemed desirable to check the irritation by the extraction of the dens sapientiæ, if not too difficult and hazardous an operation, or, if it seemed necessary or desirable in preference, the removal of the second molar. But in the conditions then presented, this could not easily be effected, neither did the operation seem immediately imperative.

So, with difficulty, an injection was made, with a hypodermic syringe, of the elixir of vitriol, under the gum in the buccal region, from whence it was at that time discharging, and an application to the swelling on the inside, of the tinct. iodine and aconite, equal parts. This caused considerable pain for two hours, but on the following day the swelling was more circumscribed, with less soreness of the parts, and the patient was able to open his mouth a trifle farther—and as he expressed it, “he had not felt so well for a fortnight.”

The discharge about the neck of the tooth had also nearly ceased. Treatment was continued, and gradual improvement was being made, so that the patient was able to insert his forefinger between the cutting edges of the incisors, to the middle joint, though the forceps could not be entered sufficiently to clasp even the second molar. The swelling, at this stage of the treatment, was yet indurated, with no fluctuation on pressure with the finger, when the patient left town on a vacation, being absent over a month, and on his return consulted a third physician, who finding the cheek had suppurated, lanced it on the inside, just forward of the parotid gland. This was followed by a copious discharge of pus, but afforded only partial relief, for

when I afterwards met the patient on the street, the abscess was discharging on the outside, just back of the angle of the mouth, and so continued to do for several months, when, November 22, 1872, he informed me that the fistula had, within a week, entirely closed up.

The swelling when last under my observation and treatment, (June 29, 1872) was so indurated, that lancing did not, at that time, appear to be indicated. During the absence of the patient, the softening of the abscess, by the secretion of pus, rendered this advisable, but, as the sequel proved, did not prevent a final discharge from the outside—though, had the treatment been followed up, this might have been prevented.

So that what appeared to be an unnecessary deformity, was, perhaps, chargeable to the negligence of the sufferer, who discontinued his visits as soon as the incision was made by the physician. As the fistula discharged only pus, the parotid gland, if in a measure involved, was not sufficiently so, to interfere with its functions, particularly as there was no closure of the duct of steno.

Aveolar Abscess Caused by Salivary Calculus.

A gentleman, probably between thirty and forty years of age, recently called for advice in regard to the right, inferior, sixth-year molar—a prominent and circumscribed swelling, having appeared on the lingual surface of the gum, about midway of the bifurcation of the roots.

On lancing it, a considerable quantity of pus was discharged. A diagnosis revealed the presence of tartar on the cervical portion of the tooth, above the swelling, with recession of the margin of the gum, and a loss of connection for a distance corresponding to the length of the roots, with the absorption of the lingual portion of the process. The presence of tartar, could not be detected much below the margin of the receded gum, but may it not have been dissolved, and removed by the same process as are, sometimes, the apexes of roots in alveolar abscess?

With the exception of two small cavities on the buccal and grinding surfaces, which had been filled with gold, the tooth

was sound, and of very fine formation and texture, as were all of the others, exhibiting, by their positions, regular and symmetrical arches.

The gums and alveoli over the buccal portion of the roots were healthy, and the tooth, by its appearance, gave no signs of impaired vitality, being normal in color—neither was there any soreness or looseness about it, but the reverse was true. The indications were, that the periosteum lining, and covering the buccal, anterior, and posterior portions of the roots and sockets, still maintained its vitality.

After the instrumental removal of the calcareous deposit, an injection of the elixir of vitriol was made to the effected parts, for the purpose of obtaining the benefit of its astringent, caustic or escharotic, and stimulant properties, and for the effect it might have in dissolving any particles of tartar that might remain. Though this was followed by a partial improvement, there does not appear to be any probability in this case, of restoring the *full* integrity of the parts, even if control of the patient is had, which is not likely to be obtained. Perhaps, with systematic and thorough treatment this might be accomplished, but this would necessitate a restoration of alveolus, and of periosteum, of which the lingual surfaces of the roots are denuded. This case is cited, because the production of alveolar abscess in this *location*, by a deposit of salivary calculus, is rare.

Encystment of a Superior Cuspidatus.

A young woman, aged twenty-five years, had her upper teeth or roots extracted, May 31, 1869, preparatory to the insertion of an artificial denture.

At a subsequent examination of the mouth, it was discovered that absorption of the alveolus had not taken place in the region of the socket of the left cuspidatus—a prominence of the process (as is observed just previous to the eruption of these teeth) being quite apparent, for which reason the presence of a tooth was suspected, when, on cutting through the bone on the labial surface, a perfect canine tooth was found imbedded therein—presenting no deviation from the ordinary position of a tooth in the normal process of eruption. It was removed without difficulty.

Case of Retarded Dentition.

A young woman of exceedingly nervous temperament, recently called (March 30, 1872) for the extraction of the left second superior temporary molar, to make room for the second bicuspid, which was just appearing, as well as to relieve her of much suffering, of which she complained. The two buccal roots were absorbed, but the palatine was entire, and brought with it, on extraction, the sack of the abscess.

The left superior cuspidatus was also just cutting irregularly, and back of the lateral incisor of the same side. The other teeth, with the exception of the first left superior bicuspid, which was absent, were fully erupted and regular.

As the patient was nineteen years of age, or so stated, though she appeared to be older, this may be cited as a case of retarded dentition, the canine being severe, and the second bicuspid eight years behind the usual average time of appearance.

† In the case of a married lady, aged thirty years, with children, and judging from appearance in good health, the right- and left second inferior temporary molars were yet firm and sound.

While we often observe cases, where some of the temporary teeth, more generally the canines, remain to adult age, it is not common for the corresponding permanent teeth to make their appearance if delayed far beyond the average period, for which reason we hesitate to extract such temporary teeth, unless an urgent necessity exists for so doing.

Offensive Breath.

BY. D. C. HAWXHURST.

I walked one summer's evening along a green lane strewn with apple blossoms. Approaching the door of my home, a low hum of voices fell upon my ear; at the threshold I detected a subtle feter in the air. Although it was deep twilight I knew whom to salute when this odor presented itself.

A young lady acquaintance, marked by an unbearable breath, and distinguished for her beauty, was making an evening call. A breath more execrable than hers I have seldom known to come from so beautiful a face, and a beau-

tiful face more completely bereft of the legitimate attractions of beauty, through the mere presence of something disgusting, I have seldom encountered in my practice.

This young lady ultimately became my patient. It was my experience with her that spurred me up, more than any other single thing, to a study of the causes, and the conditions of fetid breath.

It is folly for the practitioner to underrate the influence which a bad breath may exert in driving his patients from him. Under my own observation several operators have suffered seriously from this cause.

The first feeling that comes into the mind on smelling a disagreeable odor is a desire to get away from it. The dentist whose breath is infected with odors that disgust, must not be surprised if his patients adopt speedy means of putting themselves at a safe distance from this infection. No other single influence can equal it in repelling those on whom he is to rely for his support.

I am acquainted with an intelligent and courteous operator who carries an offensive breath, and who has seen his patients drop away from him one by one, until at last he cultivates the mechanical part of dentistry almost exclusively; nor do I know whether he is to this day aware how slight a cause has thrown him into the practice of that specialty.

The olfactory nerve becomes dulled to the impression of accustomed odors. Dentists do not perceive their own offensive emanations any more than other men. Shoemakers do not realize the odor of leather about their shops; grooms do not know how their clothes smell; the customer, and not the proprietor, is most alive to the odors about an apothecary shop; and the tobacco eater, enjoying his quid or pipe, is the only one who does not know what a sickening fetor these articles add to his breath. The truth is no one detects the smell he is used to, and by consequence, since each one is accustomed to his own breath, he will regard it as odorless, though its vapors be loaded with a dozen different stench.

The dentist should never operate unless he knows that his breath is pure. He should keep his spittoon sweet; he

should keep his rooms well supplied with oxygen; he should by changes of linen and bathing render his person offenseless; but above all he should exercise a constant watchfulness over his breath.

To pack gold for an hour and a half, and during the whole time breath a stream of fetid odor directly into the face of the patient, is a gross insult. If an apology could ever make a bad matter better it should be made here. An apology is a poor indemnity, however, for the nervous prostration, physical exhaustion, and nausea, that often result from breathing a foul breath.

Uncleaned finger nails and grimy hands will not cause disgust so strong, nor give offense so deep, as the breathing of disagreeable odors. If neglected hands offend the sight, the patient may withhold his glances; against a bad breath he can make no defense during protracted operations, and the dose becomes doubly disgusting from excess.

To diagnose his own breath should be one of the operators daily duties. It will not do for him to assume that it is sweet to-day, because it was sweet yesterday. The matter of the animal organism undergoes ceaseless change, and the exhalations vary continually. The breath does not therefore preserve an unchangeable composition. During great vicissitudes of emotional and nutritive states, it may present different odors, sweet or foul, at each half hour of the day; especially after a meal of food that is highly carbonaceous, or rich in the essential oils, is there likely to be a change in the breath.

By the time an operator has taken his breakfast, enjoyed a chat with his wife and children, and made his way to the office, the first absorbed products of digestion will have become a part of the blood. Though his wife may have assured him that his breath is sweet, there has been ample time for some article of food, as for instance a little cellery, especially if his digestion be imperfect, to communicate its odor to the breath. Or perhaps a cigar, taken on the way, may have done the mischief. I have even known the mouth to be rendered foul by the decomposition of a trace of butter, lingering about and between the teeth, introduced there while ordering

the day's groceries. It may at any rate be set down as certain, that frequent tests of the breath are necessary. Self-examination will not prove efficient. Let the dentist who would not be disagreeable to his patient, avail himself of the kindly offices of some trustworthy friend.

If an examination reveals a state of the breath, which requires attention, let the practitioner not approach his patient until all sources of offence are removed. That should be an urgent case which could induce him to break this rule. The man who would wish to be loved, as well as respected by his patients, and indeed the man who desires to have and to hold the more refined and better class of patients, will seldom depart from it.

When the practitioner has ascertained that his breath is in a state that must unfit him to appear before his patient, at least for the present, it becomes his first duty to trace the vitiating odor to its cause. Whatever vile thing it may be, he will make little progress in removing it, until he discovers its source. This will be found in the mouth, nose, throat, or chest.

Neglected teeth are nearly always offensive. Various alimentary substances find a lodgment in the interstices about the mouth and teeth, and unless removed in time to prevent fermentative changes, are certain to present putrefactive compounds to the currents of air as they pass and repass in talking.

The obvious significance of this is that the operator should often look a little after the condition of his mouth; he should daily cleanse and polish the labial, lingual, approximal, and grinding surfaces of every one of his teeth; if necessary he should brush off deposits upon the mucous membrane. There should be no carious teeth, no neglected roots, no calcarious deposits in the mouth of the dental practitioner.

At intervals we find men in our profession who chew or smoke tobacco. I am convinced that the "coming dentist" will not chew tobacco any more than he will chew assafœtida. The odor arising from this drug, especially from a pipe or cigar, is penetrating, and often clings obstinately to the teeth and oral surfaces after a second or third brushing; and there

is a sickening fetor about it after an hour or more has elapsed, which is not observed immediately after indulging in it. The mustache, beard, hair, skin and clothing, condense it on their surfaces, and confine it in their meshes.

The warm air of a room, or the heat from a stove, may volatilize, and render sensible, remaining traces of this odor, even after what was regarded as a careful cleansing. The practitioner who has smoked a cigar can not be put through the requisite processes of purification, bathing, fumigation, and disinfection, in any such manner as will make it permissible for him to enter the presence of a patient of refined sensibilities, short of several hours of conscientious and pains-taking labor.

The breath of a chewer has peculiarities of its own; it is rank and strong; it is different from every other smell; it holds its fetor long after the quid has been cast away, and the mouth thoroughly rinsed. I have seen a practitioner apologize for his quid, throw it out, rinse his mouth, and resume his work. It is to be hoped that no dentist will hereafter make so forlorn an effort to be agreeable to his patient. It is doubtful whether the offensiveness of the breath was very much modified by the removal of the tobacco.

The mucous membranes, glands, and parts about the mouth and throat, absorb the drug, and give off its odors, while the blood itself will for a time continue to throw out through the lungs portions that have been introduced into the circulation by capillary absorption.

Tobacco is neither food nor medicine, and may be entirely abstained from without detriment to the health; nor can a professional man be regarded as out of fashion because he does not chew or smoke. The purest people in the best circles of society do not use tobacco.

In the fauces there sometimes occur little nodular bodies, made up of cheese-like matter, which constitutes the source of a peculiar fetor. A nasal douche syringe may aid in their removal. Snuffing water through the nose will often dislodge them. In some cases it will be necessary to gargle the throat, and throw water upward into the nose, or snuff it backward through the nostrils and over the schneiderian membrane.

If there be cartarrh, some disinfectant may be employed with the syringe to apply it. All those parts over which the currents of air sweep, on their way to and from the lungs, should be rendered clean and odorless. Before the practitioner may approach his patient he must assure himself of this. After all else has been done that can be, a few minutes breathing of pure cold air will complete the purification. The atmosphere is one of nature's best deodorizers. Appropriate and discriminating attentions of this kind will often conquer a most obstinate breath.

The practitioner who would rid himself of an offensive breath, will first examine and purify all those parts that lie above the larynx. Four-fifths of all cases will thus be cured, or very much alleviated. Their management is not generally difficult. A frequent repetition of the cleansing process is often necessary, especially if the membranes of the throat or nose, the bones of the face, or the maxillary sinuses, are the seat of chronic disease.

The damaging effect which the last mentioned affections occasionally exert on the breath is immense. Such diseases, unless susceptible of complete and permanent cure, can not but be regarded as serious impediments to the practice of dentistry, since it is rare in the extreme that any one who suffers from them can be induced to exercise the care and attention requisite to preserve the breath sweet.

Bad breath from the above mentioned sources is of comparatively easy diagnosis. None of the parts are deep-seated, nor very difficult of examination. Cases will often occur, however, in which all parts above the larynx seem to be in health, and the source of the offending odor can be traced to the lungs themselves. To fix with certainty upon the exact cause, which is operative in such cases, will often require the skillful diagnostitian to summon all his resources; and in their cure he will meet with peculiar and embarrassing difficulties.

In cases of offensive breath originating in the lungs, we have not in general a local source of foul odor to which we may apply a purifying agent. The impurity exists in the

blood, and permeates every tissue of the organism; it communicates an odor to the skin; it impregnates about twenty-five pounds of circulating fluid. An ounce of blood drawn from the veins will, in such a case, offend like the breath itself. In thus smelling the odor in the blood, instead of in the breath, we are only taking it directly, and at first hand. It is but the work of a moment for it to escape from the blood into the air passages, and manifests itself as a morbid agent in an offensive breath.

If the practitioner of dentistry shall discover that his breath is foul from an impure blood, he must no longer work at the chair until he is recovered, he must, himself, for a time, play the role of patient.

The treatment may include all the legitimate means of blood purification. The functions of excretion should be encouraged up to the point of free activity; it is more than likely that one or more of them are sluggish, and do not withdraw the requisite amount of waste and foul matter from the system.

The diet too should receive attention. Pure foods in moderate quantity furnish very little material out of which a bad breath can be made. Known polluters of the breath, such as beer, wine, sour-kraut, and hard cider, may easily be entirely avoided.

But the question of a bad breath originating in the lungs, demands a separate treatment. In this essay I have intended to give one or two hints towards its solution, reserving its fuller treatment for a subsequent paper.

Some months ago, Miss. D——, of this city, age twenty-five, called at my office to have me make her a set of teeth. The most interesting feature in this case is in the fact of her never having a natural tooth. She is below medium size, has generally had good health. The only trouble is that she can not hear very well. There is no mal-formation about the mouth. It presents the appearance of having had teeth extracted about six months before. I used the smallest size teeth I could get, and left from each plate two molars. She was but a short time in making satisfactory use of them. I imagine it will be a long time before I see a similar case. Is it the first one recorded, or am I in the dark. J. C. HENRY, M. D.

Thoroughness and Excellence in Dentistry.

BY E. S. CHISHOLM, TUSCUMBIA, ALA.

Extracts from an Essay Read before the Tennessee Dental Association.

In the first place a thorough knowledge must be had of that part of the human economy to which our specialty invites us, both in its normal and abnormal conditions. Such knowledge is one of the groundworks of *excellence*. The intimate relationship existing between the teeth and the entire human system requires too a knowledge of the *whole* organism of man. Without this knowledge we can form no true estimate of the nature or extent of disease, or of the remedial agents necessary for its removal.

There are many persons who have a greater fondness for the active vocations in life, prefer a world of bustle and confusion, and could never stand the confinement incident to a pent-up office life. They could never learn to love an operation of three hours on so small an object as a carious tooth. Such persons are liable to grow discouraged with business, and dissatisfied with their profession generally, and not unfrequently combine their profession with others.

Every operation in dentistry, as in everything else, should be thorough. We should never begin any work without a determination to complete it. Each separate part of an operation must be perfect within itself, the whole becoming a complete body. Work well done is twice done. We are too much disposed to slight work because at first sight it seems not to be absolutely important. Neglect of small matters often leads to the greatest troubles. Who has not lost a filling by failing to trim away, at some remote point, the extruding ends of gold, thereby leaving a lever for its dislodgment, or "built upon a sandy foundation" by taking hurriedly an impression? Even though trouble should fail to come of such indifferent work, such a course leads to habitual neglect, and we degenerate insensibly into bad operators.

In operative dentistry there is no point which should re-

ceive a closer consideration than excavation; and though I may not mention anything new, yet if I but reiterate a good thought I will be repaid. This process should be thorough, as otherwise no excellent operation can be performed. Admitting the susceptibility of teeth, to morbid impressions in peculiar constitutional habits, yet in a very great number of cases, teeth can be saved even though subject to such influences. My general mode of excavation is about as recommended in the following:

1st. *Trim the enamel well to the depth of all disintegrated dentine, and remove thoroughly.* Sometimes the enamel on the grinding surfaces of the bicuspid and molars is very hard, and even after they appear well excavated, there is a line of decay running between the enamel and dentine, and not unfrequently pockets of softened tooth under the edge of the enamel. Chisels are the best instruments for this purpose; but should the cavity be uniform in shape a burr is the best.

2d. *Never excavate, leaving fissures untouched.* These are more frequently found on the grinding ends of the tooth, but often extend to the buccal or lingual surfaces. Though small, they serve as inroads to undermine your filling. They should be thoroughly rounded with a small drill at their extremities, and their walls cut perpendicularly, and sufficiently large to admit of good filling. To fill these indifferently would be as improper as to fill the main cavity imperfectly.

3d. Do as little undercutting and dovetailing as will insure good attachments to the plug. It exposes the parietes to fracture, and often renders the nice adaptation of the gold to the walls exceedingly difficult.

4th. *Trim especially well the cervical portion of the cavity.* The proximity of the teeth renders judicious excavation at such places exceedingly difficult; and often when the cavity is even with or below the gum, a constant discharge of blood exudes from the gum very much to our annoyance. The want of a firm basis upon which to begin the filling would preclude the possibility of successful work, and if again attacked with caries, would be the first point of exposure of

the nerve, the patient having no knowledge of the decay till aching begins.

5th. *Trim the wall of the cavity as smooth as possible.* Close and thoroughly adjust is the grand secret of success, and this cannot be done but by having the walls sufficiently smooth to admit of its close adaptation.

6th. In all cavities upon the sides of the teeth, where there is the least danger of the walls breaking in by mastication, cut down through the grinding surface, and fill all together. If this precaution is not observed, the tooth will by degrees be fractured, and leave the plug to become dislodged, and ultimately drop out.

7th. Bevel the edge of every cavity at an angle of about forty-five degrees. This will frequently prevent shivering the edges in the finishing up of a malleted filling, or from fracture from mastication when on the grinding surface of the teeth.

8th. Thoroughly cut away all decay in all cavities, unless liable to expose the nerve. When decays are deep there may be only a thin lamina of bone or dentine over the nerve, and to cut through would bring about a much more formidable difficulty. To thus leave the decay, and touch the surface with creosote, will frequently do much towards hardening the structure. Teeth have been examined years after such treatment, and found much improved in solidity.

With these suggestions, I leave the subject of excavation with you, by remarking that perfect contact of the filling material with the walls of a cavity in all its parts, if the above prerequisites are observed, will in nearly every instance be a preventive of further decay, it matters not what the constitutional influences are.

Extracting Teeth, and the Indications Therefor.

BY LOUIS AGUSPATH, HELANA, ARK.

Having the honor to be appointed as one of the committee to report on "Indications for, and Extracting Teeth," and thinking it probable that no other member has taken hold of the subject, I have concluded to say a few words in regard to

this very important point of dental practice. Still, at the same time, I feel that, perhaps, I am the least competent to handle the subject in the manner it justly deserves. It is indeed singular how little attention this subject has received from the great lights and abler writers on dental science. They seem to have given no general law to guide the student and less skillful practitioner.

Knowing however my own deficiency, I shall not attempt to explain *when* and *how* teeth ought to be extracted, but shall only give some of my thoughts on the subject, in order to open the way fairly for discussion, and a careful consideration of the question.

As there is hardly a practitioner who is not called upon daily to perform this painful operation, I hope that every member of the Association will freely participate in the discussion.

Following the natural order of the topic, we shall first consider the indications for the extraction of temporary teeth. To come to a correct conclusion as to when we should, and when we should not extract temporary teeth, it is important that the operator should be thoroughly acquainted with the periods of the normal eruption of the different permanent teeth.

In the majority of cases where the child is of healthy and robust constitution, nature will perform all that is necessary. But in children who are weakly or sickly, the dentist's skill will be required either to assist nature in her efforts or to direct the eruption of the permanent tooth.

Tendency to irregularity of the permanent teeth is one of the first and principal indications for the removal of temporary teeth. Again, should the crown of the temporary tooth have been destroyed by caries to such an extent as to bring the rough edges of the root in contact with the soft tissue, and thus cause irritation, ulceration, and sloughing of the same, or set up inflammation of the periosteum, exfoliation of the alveolar process, and alveolar abscess, then, and then only, is the operator justifiable in removing teeth or roots previous to the period for the eruption of the permanent ones.

The indications for the removal of temporary teeth, with the exception perhaps of some isolated cases, as a general rule is very plain, and with sufficient knowledge of the physiology of the teeth, the operator will very rarely be led into errors.

It is not so with the permanent teeth; here the dentist is well aware that if a tooth is once lost, nature will not replace the lost member, and thus an error here committed can not be corrected. I shall now enumerate a few indications for extraction; but to decide upon the propriety of the removal of a permanent tooth, will greatly exercise the judgment, and depend upon the experience of the operator.

Among the leading indications for extraction are teeth causing diseases of the antrum, facial neuralgia, dead teeth and roots, teeth with incurable abscess, loose teeth, and in fact all the teeth that have become a source of irritation to the surrounding tissues, and where the diseased tooth gives no hope of restoration to health. On the above points I shall not elaborate, but leave them open for the discussion of those more able, and of more experience.

The extraction of teeth, although in the majority of cases simple and safe, is by no means to be considered altogether free from accidents. Few of us, perhaps, have been so fortunate as never to meet with some, however slight. Who of you gentlemen has not at some time, in extracting a tooth brought away a part of the alveolar process with it? or extracted two teeth, intending to remove but one? The latter accident happened to the writer in his early practice. While extracting the first lower molar the second bicuspid was brought away also. You may imagine my feelings when I inform you that the sufferer was a beautiful young lady of my acquaintance, and I at the same time unmarried. But these accidents may be almost entirely avoided, if the operator has sufficient knowledge of the parts to be operated upon, and if he is provided with suitable instruments, and the same are used with a skillful hand.

The extraction of teeth is perhaps the most painful opera-

tion for the time being that the surgeon can perform, and as Dr. Harris says, "there are few cases in surgery that cause more dread than the extraction of a tooth."

Considering those two points alone, the important question of "time" will at once present itself. We all admit the severity of the pain we inflict. Then in how long or short a time should the operation be performed?

Some good operators advise us to extract teeth slowly, as the patient will, they say, bear the pain better, and with less shock to the nervous system. However correct they may be in their theory, the writer's opinion is in direct opposition. We say if you are compelled to inflict pain, do it quickly, and get through in as short a time as possible. In proof of the correctness of my position, I would ask—Have either of you ever been shot? If so, did the penetration of the bullet cause you much pain? Or perhaps you may unexpectedly have cut yourself. Did you experience much suffering? Try and inflict these injuries slowly, and with a knowledge that it is to be done, and you will find that the result will be a decidedly different one.

To fortify my argument better, I shall furnish one other illustration. If you have ever received a blow upon the ulnar nerve, where it crosses the elbow joint, the place commonly called the "funny bone," you will remember that it destroyed almost every particle of sensibility in the lower arm. Now with this fact before us, we assert that if it were possible to strike a blow upon the trunk of the maxillary nerve, we would be able to extract every tooth with comparatively no pain.

Basing my argument upon these points, I claim that my theory, if not altogether correct, is at least very plausible, and worthy of careful consideration. It has been the practice of the writer to operate as quickly as possible, and in many instances he has succeeded in removing three and even more teeth, the patient giving utterance to pain only when the first one was extracted; especially has this been true when the teeth to be removed were joining. This will generally

prove the case in most instances, if the operation is rapidly performed.

With these remarks, gentlemen, I will leave this portion of the subject to your careful consideration, and will next proceed to give my mode of extracting a few teeth.

Imagine the root of a central incisor badly decayed, and which probably had previously a pivot tooth ingrafted upon it, the dentine lost, cementum brittle, with a firm alveolar attachment. Now in this case we make a perpendicular incision through the gum in the center of the root, and dissect the gums in two flaps, then take a sharp enamel chisel, and remove a part of the alveolar process, sufficient to enable us to take firm hold of the root with plain root forceps, with thin beaks, and with inward and outward movements, the latter the stronger, remove the root. In cases like the above, I object to the use of the duck-bill, forceps, as in most such cases it will be almost impossible to cut through the alveolar process, without at the same time either cutting through the root or fracturing the same, and thus making the operation more difficult, and giving the patient unnecessary pain. In the extraction of cuspids with strong attachments, I adopt the same method.

For badly decayed lower molar teeth, I prefer the cow-horn forceps, placing the same in the center of the tooth, and forcing the beaks by the closing pressure between the roots, and with a steady outward movement at the same time. Should the tooth at the bifurcation not be strong enough to resist the pressure and split, you will have the satisfaction in most instances of bringing out one root, and at the same time breaking up the attachment of the other, which may then be taken out with root forceps, or a strong excavator if you please, without further trouble to the operator, or pain to the patient. Should the case in question present itself with roots spreading, or approximating at the apex, and thus inclose a thick, and firm septum, and with the crown too strong to be broken with the cow-horn forceps, I then make use of the splitting forceps, and remove each root singly.

One more case, gentlemen, and I will try your patience no

longer. The extraction of the "*dentes sapientiæ*," especially the inferior ones, is frequently a source of great annoyance to the operator. This tooth we extract, with Physick's forceps, whenever circumstances will allow the use of the same; if not applicable, we use Harris's forceps for lower molars, in the usual manner. In connection with this subject I, would have been pleased to say a few words in regard to the wholesale extraction of teeth, to keep a number of rubber-boilers from starving, but want of time, and the disgust which I entertain for the same, forbid.

Thanking you gentlemen for your kind attention, I hope that you will discuss this subject in a manner commensurate with its importance.

PROCEEDINGS OF SOCIETIES.

Discussion Before the Ohio State Dental Society Continued.

Subject—The Best Means of Preserving the Eyesight of Dentists.

Dr. L. Buffett thought some refrained from the use of glasses to help the eyesight because their patients might think them too old to operate. This is all wrong. As soon as the eyes become deficient glasses should be resorted to. Watch-makers use magnifying glasses all the time, and why not dentists? He felt satisfied glasses would benefit young dentists even.

With regard to preserving the eyesight he said anything that will improve the general health will help the eyesight. Persons of a nervous temperament should not rise too early; lying in bed in the morning, when it is found refreshing, seemed necessary to some people, and he believed we should follow inclination in the matter of sleep.

Dr. R. G. Warner said it was evident to his mind that the nervous and sleepless condition was brought upon people by sitting up late and occupying their minds with study or busi-

ness. If they would dismiss these things from the mind and go to bed sooner it would be better for them.

Fowler and Wells, he believed, in writing concerning the eyes said, that mush and milk, and temperance, were as good for the eyes as anything else.

Dr. C. B. Kelsey—Does the Doctor mean that mush and milk are good for the eyes?

Dr. W. M. Herriott indorsed Dr. Buffett's remarks on sleep for nervous persons.

It is necessary to keep the stomach in good condition; also to keep the circulation of the blood equal, especially at the extremities. Tight boots in winter often keep the feet cold.

Dentists should have a northern light, and he favored transmission through a single pane, and not through three or four panes. He also favored the use of glasses.

Dr. D. R. Jennings thought that holding the hands before the face is injurious to the operator. The mouth mirror when properly used is of much advantage.

Dr. B. F. Rosson said he had not been ashamed to use glasses for a number of years. But he only used them while operating. He discouraged the use of nose glasses and preferred spectacles.

Dr. J. M. Porter thought the trouble dentists have is of one kind almost universally, because their work is such as produces a certain kind of disease, and because they have no rest in making their operations.

In order to afford the proper relief when operating, the object to relieve the eye must be more than twenty feet from the eye. It may be supposed they may get relief by looking around the room, but in looking at objects at a distance of more than twenty feet the eye is at rest, and there is no such relief in looking at close objects. When looking at a tree or some object at a distance of forty or fifty feet, the eye is at rest, and there is no work for the muscles. When you bring an object near the eyes you have that convergence referred to and an effort on the part of the internal recti muscles, and the nearer you bring the object the more convergence there is of the eyes to see it. Some gentleman spoke of the

injury to the eyes, caused by getting them down so close to the patient. That is true, because the nearer the eye is brought to the cavity in the tooth where you are working, the more convergence there is, and the more pressure there must be on the surface of the lens in order to adapt it to this short distance. When looking at an object near you there is a contraction of the ciliary muscles, and the further we get an object from the eye the less strain there is upon these muscles. This thing of the eyeballs enlarging is all bosh. The eyeball is the same when looking at objects at ten feet distant as at fifty feet. When the eyesight begins to quiver you may know that the internal recti muscles are becoming fatigued and weakened, and that rest is necessary. The same principle will apply here as anywhere else in the body. Let a man use a certain set of muscles constantly, and by and by they will become overworked, and disable him from doing what he formerly could do.

The use of the glass as recommended by Dr. Buffett is very good, because by its use less convergence is required, and consequently there is less strain on the eyes.

Another point suggested by another gentleman is very well, that is, that just as soon as you discover that your eyesight is failing, you should resort to glasses; yet it is a better practice to use them before you discover that they are failing. Most any man knows enough to carry an umbrella when it is raining, but it is a pretty good plan to have one along when it does not rain, because it might rain. Eye troubles are more easily anticipated than remedied after they are injured.

The dentist in his operations will have his eye a foot from the cavity which he is filling, next perhaps three feet from the cavity, looking for something he wants, thus using the same muscles of the eye all the time he is at work, and using them the same way day in and day out; and this constant effort to maintain one position, and looking at objects at a certain distance from the eye, causes the eye troubles of which he complains.

Dr. Rosson observed that another advantage from the use

of glasses was that it allowed greater distance of the operator from the patient.

Dr. J. H. Warner considered this subject of magnifying glasses one of extreme importance. He commenced the use of magnifying glasses years before he felt any need of it simply because he had one, and believed by its use he had done his eyes an irreparable injury. He believed any one who uses magnifying glasses before he needs them, will by and by come to that point when he can do no better with magnifying glasses than without them. All the mechanical appliances brought to their aid have their proper place in the economy of the profession, but when the eyes become weakened by age or otherwise, then he believed the magnifying glass would be beneficial, but let those whose eyes are strong enough to do the work without that aid use them, and he believed it would be detrimental to them. A recent writer has said that the epizooty, if it were good for nothing else, was good for the dyspepsia, because people who were accustomed to ride will now begin to walk, which will benefit them. He believed this to be true.

The essays read had carefully considered the subject. Dr. Porter's particularly was fraught with all that could be said in the same space of time that was valuable. He had taken a learned view of this subject, and had studied the matter carefully, but theories are sometimes imperfect, and the theory advanced by Dr. Porter, that the constant use of muscles will ultimately end in their destruction, he believed to be untrue. No arm was stronger than the arm of the blacksmith, and he is using the muscles of his arm constantly. It is not the use, but the abuse, of muscles that injures them. He believed the eyes of dentists were injured more by operating by gaslight than many of them were willing to allow. In his own case, however, his eyes had been injured by nothing to so great an extent as by the use of magnifying glasses before he felt the need of them.

Dr. J. M. Porter had hoped that what he had previously said would be understood, but he feared it was not. The point he made was that such eye-troubles as dentists have,

were produced by the constant converging position maintained, thereby injuring the internal recti muscles. To compare the action of these muscles with the muscles in the arm of the blacksmith is quite unfair, though he did not accuse the gentleman with intentional unfairness. The blacksmith in using his arm is constantly moving and changing its position, bring into use different muscles; while in the case of the dentist, it is the constant contraction of the internal recti muscles acting against the external recti muscles that causes the injury, and which action is materially different from the constantly changing of the muscles brought into use in the case referred to.

In regard to the use of magnifying glasses, the point is this: do not use magnifying glasses all the time, because if you do, you will have the same trouble as if they were not used at all, as the muscles of the eye would have to be held all the while in the same position. But if the eyes were used half an hour or so without glasses, and then the magnifying glasses used awhile, there would be that change needed, as the amount of convergence necessary to see the same object with the magnifying glass—the object being enlarged—is less than without; it consequently affording relief to the muscles of the eye, as the amount of muscular action required is less. What is wanted is that relief to the muscles doing the work, afforded by frequent change, and one of the best things the operator can do is to operate ten or fifteen minutes with the magnifying glass, and then lay it down, and working about the same length of time without it, when the glass should again be used, thus producing the change of position and consequent relief the eyes need.

Dr. J. H. Warner said he did not intend to criticise Dr. Porter's essay. He would, however, like to know if the muscles of the eye of the dental operator have not frequent change when he is one moment looking in the cavity of the tooth, the next moment looking around for his gold, and so on during the operation, changing the action of the muscles as the blacksmith does in his work. He thought he had made

no unfair comparison in the illustration he had made use of, but that his remarks must have been misunderstood.

Dr. H. A. Smith thought there was really no difference of opinion between Dr. Porter and Dr. Warner when rightly understood. He believed the fatigue experienced is more from the mental effort of the operator, and had more to do with the nerves than the muscles. The turning about, looking at different objects, may afford casual relief, but it is that constant effort of looking into the cavity, and bending over with the whole mind concentrated upon the work that fatigues the operator. He did not think magnifying glasses should be resorted to for relief; it results from overtaxing the nervous system, and rest is what is required. The operator should have plenty of good light, and not overwork himself. He had worked until he had been blind temporarily, simply because he had exhausted himself. He did not think it would be well for him to resort to magnifying glasses. If he were long or short-sighted, which was a diseased condition of the eyes, he should then have lenses; in either case however he would consult an oculist. Unless there is a diseased condition, the eye does not need lenses. This idea of resorting to glasses, and all that sort of thing, is to be done after age has flattened the eye, or after decayed by age, or overworked, or diseased. He thought this bending over and straining position, in which the operator does his work, obviously tended to nervous exhaustion and congestion, and resulted in injury to the eye.

Dr. Siddall wished to emphasize what Dr. Smith had said in regard to the effect of the exhaustion of the system upon the eyes. He had had a spell of fever for four months, and found for sometime, after resuming work, a difficulty with regard to his eyesight. He believed it all originated from his exhausted physical condition. He had experienced the same difficulty at another time, making it clear to him that the difficulty was occasioned by a want of good physical health. He thought there was a liability to injury from the use of glasses, when the trouble arose from overwork.

Dr. F. H. Rehwinkle said it was with some diffidence he

opposed some of the remarks made on the subject. As they observed him in the room, they had doubtless noticed that he generally wore glasses; but if he sat down to read or write, he was obliged to remove the glasses, being near-sighted. He could see persons well enough in the room, but was unable to recognize their features without the aid of glasses. He could not use magnifying glasses in his condition, unless he would use them double. He had tried the plan recommended by Dr. Porter, and fancied that perhaps there was some relief in it, but upon further trial, found he had deceived himself, and found he could get along better with his natural sight than with the aid of glasses.

There is a soothing power exerted upon the eye by so many different circumstances, he thought. Perhaps it might be well to mention some of these. As suggested by Dr. Smith, he believed the mental excitement of the operator had much to do with his eye troubles, as, for instance, when there was an apprehension as to the result of the operation. This was the case to a far greater extent before they had the assistance of the rubber dam. The fear he had experienced from danger of large cavities being swamped when operating, had injured his eyes, he thought, more than anything he had experienced since the rubber dam had been brought to their aid.

He found that the atmosphere had a great deal to do with the work of the eyes, especially with those temperaments that were more or less affected by the electricity in the air.

The state of the body had much to do also in regard to it. If, for instance, he was suffering from the effects of constipation, and a tendency of blood to the brain, his eyes became much more easily fatigued than at other times.

Mistakes in diet may result in serious difficulties in like manner, but as soon as its effects pass away the whole trouble disappears.

Again, the concentration of the sight upon a certain point any great length of time, it is true, produces the result stated by Dr. Porter; yet it was not clear in his mind whether it is not the concentration of the mind, the great strain upon the

nervous power, that has more to do with it than the simple muscular strain referred to by Dr. Porter, though all he has said, as to the results of this muscular action, he could conceive to be correct.

Dr. Rehwinkle remarked that he had his chair in his operating room covered with green material, and he had found when his eyes were becoming fatigued and painful from the prolonged strain upon them, that if he would take them off of his work, and allow them to rest on that green color, it had a very soothing effect upon them, and seemed to relieve them of the effects of the strain upon them, and after a little while he was able to go on with the work again. He did not know that he could give the philosophy of this; but it was a fact that green, buff, and some other colors had this soothing effect upon the eyes. Dentists, when papering their rooms, should give attention to this fact, and choose neutral colors, neither light or dark, but those that were not hurtful to the eyes.

Heat, he had no doubt, was also hurtful to the eyesight.

With regard to the value of glasses to those whose eyesight had failed from one cause or another he was unable to speak from personal experience, because so far as his case was concerned, he never wore glasses constantly, and perhaps he had an advantage now in his present age, and at a certain focus which he needed for his operations, and could see better probably than a great many others who wore magnifying glasses.

Dr. Porter desired to make an explanation on one point. He had said that the muscular action on the part of the eye when operating was very dissimilar from the muscular effort in the arm of the blacksmith. He said so still, and he wanted it distinctly understood that to see a small object under a distance of twenty feet, requires a converging action of the sight. If that be so, it does not make any difference whether the operator looks at the teeth of the patient, or looks around to pick up his gold, it does not afford any relief. No small object can be seen under a distance of twenty feet without this convergence, and if so, it requires a very

great convergence to see small objects under two feet, and the same muscular action is required all the time; and he contended there was no relief as long as the operator was looking at such small objects so long a time, whether it was the teeth, the gold, Hill's stopping, or what it might be, there was no relief unless there was a material change in the distance of these objects from the eye of the operator. If the operator had to reach twenty-five feet to get his gold, there would be a relief to the muscles controlling the sight, but the difference of the distance from the eye to the teeth or the gold affords no relief.

Dr. H. A. Smith desired to know if in turning around to pick up the gold, and to file the metal plate, etc., there was not some relief of that tension of the mind, and also a relief to the muscles of the eye.

Dr. Porter replied that in working on the plate the same muscles are continued in action as in operating in the mouth.

Dr. W. M. Herriott inquired if in holding the eye in the position spoken of, so as to see objects at a certain distance, the muscles were not on a strain similar to that which the muscles of the arm of a blacksmith would be in holding his sledge out at arm's length.

Dr. Porter replied that there was just as much difference as Dr. Herriott suggested.

Dr. J. H. Warner wished to know how Dr. Porter accounted for the relief he said was afforded the eyes by the use of the magnifying glass, as the change of the focus was so small as to produce but little if any change in the action of the recti muscles. The focus of the eye is not changed, but simply the size of the object increased.

He did not believe, that it is the muscular tension that tended to destroy the eyesight half as much as the mental strain, or the nervous strain, one undergoes in protracted dental operations. Any one knows they do not tire half as fast when the operation is going on smoothly as when the saliva begins to flow and he anticipates difficulty.

Dr. Porter admitted that the focal distance was not changed under the circumstances referred to, but on the other hand

the size of the object was materially changed, so that it does not require so much contraction of the muscles as it did to produce the convergence required; in other words, the convexity of the lens of the eye is not increased as much to see the object after it is magnified as before; therefore, there is a relaxing of these muscles, and consequent relief to them.

Dr. C. H. Harroun thought some interesting points on this subject might be brought out by members giving some of their personal experience in regard to the matter. He stated that he had had pretty serious difficulties with his own eyes, caused mainly by excessive labor, and a very strong light, both in the day time and at night; working in a strong light till four or five o'clock, operating during the day, and in his laboratory by gas light until twelve or one o'clock at night, being obliged to do so for want of proper help. The result was in some six months, amaurosis. He was not aware of the injury he was doing his eyes until it was done. He then rested by taking a gun and going West on a hunting tour. Upon returning his eyes seemed restored, but he was advised not to operate without glasses. He had adopted this plan, and for the past six years had used the same glasses. Though out of doors he could see objects apparently as well as ever, yet when operating he had resorted to glasses.

If he had a patient devoid of a proper amount of animal magnetism, thereby drawing from him, there was naturally more wear and tear, and he felt its effects more upon his eyes. If the patient was in full vigor, so that he got a proper supply from him or her, he had no trouble with his eyes. He thought if this matter could be regulated, that the patient coming into the chair would have a proper amount of animal magnetism, the operator would not be so liable to injure his eyes. Dr. J. Taft once prostrated himself by labor of that kind, from the effects of which he did not recover for some months. He found that it was caused by real exhaustion, from want of a proper amount of animal magnetism in the patient. Dr. Harroun also said he had found it the case sometimes that he drew from his patients and exhausted them.

Dr. J. B. Beauman had suffered somewhat with a failure of his eyesight for the last year or two, but had attributed it solely to his growing older. He was still persisting in seeing without glasses; he did not know whether it was a wise course or not. He had read a year or two ago an article in the *Scientific American*, in which the writer stated, if when we found our eyesight beginning to fail we should persist in using the eyes without glass, we could overcome in a great measure the necessity of resorting to the use of glasses, but if we commenced the use of glasses, we would have to use them continually.

He found when he had a long tedious operation to perform, his eyes became weary and weak; when they got rest, they were right again. He believed the great difficulty was that they overtasked the whole physical organization; the eyes partake of weariness the same as the body, and we work too hard and rest too little.

Dr. J. Taft said it is a subject in which every one is interested, and about which every one has thought perhaps more or less, for when the eyes become wearied by the labor in the operations in which we engage every day, it must come vividly before the mind of every one, "What must become of my eyes?" And especially when the operations in which we engage day by day, depend so much for their proper performance upon the eyes, it becomes a very important matter indeed.

Knowing that the ground has been gone over, and discussed, both by essays and the discussions that have followed, it would seem presumptuous in me, who have not heard anything of the views presented, to say anything on the subject. But after all there is a point or two to which I will advert, with the hope that they may not have been presented, because you all know it is very unpleasant to tell a story after it has been once told. Some people can do that, but I cannot; that is, I feel embarrassed in endeavoring to do so.

I will only make a very few remarks, and not detain you many minutes. The first point that occurs to my mind is, that members of the dental profession do not suffer, as a whole,

from diseases of the eye more than many people in other occupations. When I look over the profession, and see those who have labored day after day and continuously, I do not see that they suffer more than many other classes of people. We do not find many blind dentists, or many whose eyes indicate disease. I infer therefore that from some cause or other, our occupation is not one—as it is practised by most dentists—very wearing upon the eyes. Though that is said very frequently, nevertheless, those who operate frequently—especially in the manner common now—experience little injury to the eyes.

The structure of the eye has doubtless been presented here far better than I could do it, and the mode of its operations, the changes it undergoes, and the various labors in which it is occupied, have doubtless also been presented, as has likewise the influence of these operations, the phases of these changes made in the eyes, because these are obvious things. Now if all these have been presented, what is there left for me to discuss.

One thing talked about considerably last night, as you will remember, was the condition of the muscles that move and manage, and hold the eye apparatus. And in the main the correct ideas were presented. It is important in any kind of exercise that we have rest and labor, that there be vicissitudes or changes in this respect. The results obtained by various movements are very different from those attained by the condition of tension. Now the eye to be moved frequently in its socket exercises the muscles of the eye, and of course that will give rest, as was clearly presented last night. The point I would present is this: that every little movement of the muscles of the eye will give it rest, while a strained fixed position will become wearisome. This is shown by the fact that looking at an object of considerable size the eye is not wearied, but if you fix the eye upon a small point at the same distance, and hold it there, and maintain that fixed position on the small point for a considerable length of time, the eye becomes weary. While fixed upon the large object for an equal length of time there

will not be that weariness, because there is room for the movement of some portions of the muscles. The great difficulty arises from fixing the eye for a great length of time on a very small point, and holding it there.

The character of the light thrown into the eye also has very much to do with it, not however with respect to the muscles of the eye, but in regard to the influence particular rays of light have upon the organs of sight, or upon the nerve distribution that receives the impression. That was hinted at last night, when some one—I have forgotten who—spoke of the soothing effect of the green rays brought to bear upon the eyes, in which case a portion of the rays of light falling upon the eye are arrested, and only a certain portion strikes the eye. All understand this, that any nerves that receive impressions will receive some that are kind or pleasant, but will not tolerate others. That is true of the eye; some colors are agreeable and pleasant to the eye, while others fatigue or tire it, or irritate it. That is a point I think we should keep in mind, and study. In operating there is just this difficulty sometimes: if the gold which is being manipulated and placed in the cavity is very brilliant, the eye is wearied sometimes from the reflection of this metallic surface, and longs to look at something which will not weary it. Of course, taking the eye from this bright surface will afford relief, but in prolonged operations where the eye is necessarily fixed upon something of this kind for a long time it becomes exceedingly fatigued.

The discussion last night ran largely in reference to the motor, or muscles that manage and turn the eye. In this connection it might be remarked, that the nerves that are distributed through the eye itself may be impinged upon, or encroached upon, so as to injure it very much, and cause the eye to become easily fatigued. It is well known that the nerves become impressed by various influences that operate upon them. The nerves that supply the ear become irritated. In many instances sounds become exceedingly unpleasant and grating, so as to produce irritation upon the nerves of the ear, while other sounds may appear pleasant, soothing,

and quieting. So with the sense of smell, the sense of touch, and all the other senses are liable to this hyperæsthetic state. Perhaps we too much overlook this matter. This disposition may occur in various ways. The general enfeeblement of the system will bring about an unfavorable condition of the nerves that may produce hyperæsthesia, or obtund the nerves. The sensibility of all the nerves of the body may be thus increased, and made more susceptible to impressions, or may be obtunded; and it is important to know the facts in regard to this, and be able to understand, and decide whether there is a hyperæsthetic state of, the organ in its nerve distribution, or whether there is an obtunded condition.

The details of this of course I do not pretend to present here, and perhaps would not be able to present them, but these are points we ought to understand. The eyes are always weaker when there is a general enfeeblement; the muscles that move and manage the eye partake of this enfeebled condition, and become more easily wearied. Those of you who have looked into a camera for two or three minutes, or half a minute perhaps, found your eyes sensibly relieved as soon as the camera was closed up. You scarcely ever see any one with eyes so strong as to be able to look steadily upon one point for a considerable length of time without fatigue. It is a wonder, that the eyes of dentists do not suffer more than they do. True, the way some men operate it does their eyes no more harm than it would to hoe corn. They will while filling teeth, be talking about every thing, see every thing, and will laugh and sing all the while. Such operators will not injure their eyes. But the man that fixes his attention, and fixes his eyes sharply and keenly upon the point where he is working, and holds them there, will suffer fatigue of the eyes, if nothing more.

How are all these things to be remedied? What can be done for the eyes to assist them and preserve them for the longest possible period? When the eyes fail very manifestly, so that they can not be made available by ordinary glasses, then the operation of the dentist is gone—it is the end of the matter with him, so far as the practice of den-

tistry is concerned. How may the eyes be preserved in the best possible condition? This is a very important question to those who have eyes yet in all their strength and vigor; of more importance, if possible, to those whose eyes have begun to fail because of age, or anything else.

One of the best means of affording relief to the eye when fatigued, as has been suggested, is to surround it by such objects as are pleasant to look upon. This matter ought to be studied, and we ought to have essay upon essay, upon this subject, so that we would thoroughly understand it.

In reference to taking care of the eyes, by using glasses during the time of operating, I will say a few words. I recommended some years ago the employment of glasses by persons whose eyes had not begun to fail to relieve them of this fatigue, occasioned by their fixedness upon a small point. By the use of glasses, magnifying the objects upon which the eye must rest, there would be a much larger surface presented. But the objection occurred to me, that the convergence of the eyes might produce difficulties that would be equal to the advantage derived from this enlargement of the object, but I have not found it so. The convergence of the eyes to a certain extent will not injure the eyes. That is the principle given or the idea entertained, that if you use glasses you will shorten the vision, and the organ will get out of play; but I do not regard it as true, unless it is pressed to a greater extent than it need be. It is true in regard to the blacksmith's arm—as referred to last night—though it is not a parallel case—that he may by the use of the muscles of his arm increase its size and strength; but he may also exert the muscles to such an extent as to abuse them, and lose their strength, and the arm become less than before. But up to a legitimate and proper point there may be a convergence of the eyes without difficulty or injury. When there is danger of any difficulty in this way, it may be known as the eyes will complain, and cry out in such a manner that you will have to hear them. You will know it when there is a sense of pain with pressure, and fatigue on the part of the eyes. It will easily be recognized, and ought always to be regarded.

In regard to this matter of changing from action to rest, from work to rest, from one condition to another, much might be said. A horse will get along very well up hill and down hill, better than to travel continuously on a level road; change seems to be necessary. This principle as it applies to the eyes, is advisable, hence, I have resorted to this principle for the last few years. I have used glasses in such a way as to give frequent change to the eyes, changing the focus, and consequently changing the focus of the eyes, and some change as to the direction of the rays of light upon the nerve distribution in the eyes, by using different glasses with a different focus, and I have derived very considerable advantage in that way. I used two glasses, throwing them one over the other. Then after that it occurred to me, that perhaps a different arrangement might be made, so as to use a large magnifying glass over one eye, and not use the other at all. One of the eyes can be used with a strong magnifying glass without any apparent fatigue at all, putting a black dish over the other. That arrangement had some inconvenience, but I could work for a much longer period without fatigue to the eyes. Upon this same principle watch-makers use the same lens for years and years, a whole lifetime, over one eye without the eye suffering very materially. In order to carry out this principle more fully, I got an idea some years ago of using two glasses, the upper one having a focal distance of about eighteen or twenty inches, and the lower one of nine or ten inches. These I use in operating, one thrown upon the other (the speaker here showed with his glasses the manner in which he used them, explaining that they were so adjusted as that he could use either or both of them, or the unassisted eye as he wished.)

Thus you see I have three or four ranges of vision. In the first place I have the unassisted eye, by which I can see things on the table and about the room very distinctly, perhaps as well as I ever did. Coming to the operation I look through the lower glasses. In some cases, when I want to see if the operation is going on all right, I will look through the glasses thrown together; so I have

here four grades of vision, and there seems to be that change from one grade of vision to the other that gives relief to the eyes, so that they do not suffer in any sense at all, as they formerly did when I used but one glass. This arrangement I find more convenient, and my eyes suffer less than with any other arrangement I ever had. I would part with almost anything else I have about me, in the way of my arrangements and appliances, rather than these glasses.

I will add in respect to this matter, that four years ago my sight was far less perfect than now, I can now read with the unassisted eye print or manuscript very well that three or four years ago, or two years ago, I could not read at all. I mention this to show that the use of glasses is not injurious.

Dr. Rosson—Do you believe it would have been better for your sight if you had commenced with that arrangement of glasses when you first began to use glasses?

Dr. Taft—I am very sure it would. When I commenced the use of glasses I was broken down, so that I could operate but little, scarcely any for a year. My eyes were so weak I could not operate without glasses. I resorted to the glasses, and get along tolerably well, but suffered still in that respect; but three or four years ago, when I began the use of these double glasses, I did much better.

Those of you who have seen Dr. Atkinson operate know that he uses two glasses. He was driven to it simply by the necessity of the case, and by his appreciation of the difficulties, and his understanding of what was needed. If I had had something of this kind five or six years ago, I would not have suffered from this inability of eyesight as I did in the reading of print, manuscript, etc.

Dr. J. H. Warner—I would like to know whether you would recommend the use of glasses of any kind to young men who feel no symptoms of impaired vision.

Dr. Taft—My impression is that almost anybody could use them to advantage. If the eyes suffer fatigue, and you would use glasses arranged upon this principle, my impression is that the eyes would receive relief if you were but ten years old. Prolonged use of common glasses on the eyes

may be injurious, but the eyesight of any person would doubtless receive advantage from the use of such glasses as these. You can readily understand the reason of this: Suppose a person of but ten years of age fixes his eyes upon a small point for a long time, the muscles of the eye must become strained and tired. Suppose the size of the object looked at is doubled, would it not relieve the eye from that strain? The relief afforded, it seems to me, is in that way merely by the expansion of the surface at which you look. The manner in which the light strikes the glasses will have a modifying influence; sometimes the light is thrown on the eyes in an oblique manner, which is quite unpleasant. In the arrangement of the glasses that must be guarded against, so that the rays will come as directly into the eye as possible.

Dr. Warner—I believe that to be the true theory, but I don't believe the glasses magnify the objects looked at enough to materially change the position of the muscles of the eye.

Dr. Taft—You say you don't believe the glasses magnify enough to amount to anything. A very little change gives relief many times. It is the constant straining and holding the eye to a very fine point, that wearies. And this refers not only to the muscles but to other parts in the structure of the eye. Other parts are in that strained condition as well as the muscles.

Dr. F. H. Rehwinkle—I merely wish to say that I believe the remarks of Dr. Warner are applicable where a person is short or near-sighted. In short sighted persons, wearing glasses will not remedy the evil. In other words the ball of the eye becomes rounder through the use of glasses, while in long sighted persons it will increase the flatness of the eye-ball. It is a well-known fact that near-sighted persons, who commence wearing glasses in early youth, and wear them constantly, are obliged every few years, or every year or two to change to glasses having stronger and stronger magnifying power, whereas if they abstain as much as possible from their use, they may get along with the same glasses or many years. As people advance in age the pupil of the

eye becomes more flattened. On the other hand in far-sighted persons, the pupil becomes more round. In cases where the use of glasses is persisted in too early, I can see there is danger of doing harm, but I don't think an occasional use of magnifiers for a change has any injurious effects upon the eye.

EDITORIAL.

The Dental Profession.

In the midst of that activity which distinguishes the dental profession, it must not be forgotten that there is yet much work to be done in extending the limits of professional knowledge, and in creating an adequate dental literature.

We have already gained a secure place among the world's vocations, but we have something yet to do to make that place an honorable one. This we are to accomplish by ridding our practice of all the characteristics of a mere calling, and by gradually imparting to it that profound acquaintance with principles, and those honorable methods which must alone distinguish the learned professions.

There are at present more talented young men of but recent connection with our body, than have ever before attached themselves to it during the same period of time. This fact is in itself a good omen. But it is true that the dentist is in many communities accorded a lower position than other professional men. In his mastery of the laws of vital phenomena, and in his acquaintance with the art of healing he may be up to the medical standard. And yet he must often find himself out-ranked by physicians who are below him in real attainment.

This state of things has led some young and ambitious dentists to entertain regrets, and to look wishfully over the wall into medical science, where the accident of profession secures a certain prestige. They have desired to wear that mantle of honor which medicine, through its great literature, long antiquity, and brilliant record is able to furnish at least to its deserving votaries. They have found it difficult to secure their own adequate recognition in an ignorant and prejudiced community, and, in addition to this, to carry forward the standard of their profession.

That this cause of complaint is fast disappearing must be recognized by every careful observer of the times. Late brilliant achievements in the department of practice, as well as the more than respectable recent additions to our literature, have had no small share in effecting this change. It is evident that a marvelous activity of invention, ambition for achievement in practice, and enthusiasm for scientific investigation, has taken possession of our profession. Un

der this stimulus, and with that sturdy vigor, which is the natural characteristic of a young profession, we shall soon take a place as a learned profession, at least not second to that of medicine.

It appears therefore that a career in dentistry should not be less provoking to the ambition of a young man of genius than a similar career in medicine. We have yet our books to write, and our literature to create; we have yet to let in the light upon dark points in dental physiology; we have numerous problems in pathology to solve, and new departments of investigation to conduct. And if all this is insufficient there is actual practice in which scientific acquisitions and artistic skill are transmuted into brilliant results.

The Phosphates.

As regards the ultimate cause of dental caries, there is at the present time a pretty general agreement. It is held that there are certain molecular defects incorporated into the minute structure of the teeth during their period of development, and that these structural defects make them in after life an easy prey to causes of decay that would be very trifling in their influence upon well-organized dental tissues.

As in part accounting for these defects, it is held that most civilized nations fail to take into the system a sufficient amount of tooth and bone-forming material. The enamel and dentine are thus formed under conditions which prevent a due degree of density through calcification.

The remedy for this condition in the child whose osseous tissues are still forming is found in the daily use of oat meal, barley, unbolted wheat flour, and such other vegetable and animal aliments as contain an abundant supply of the mineral salts.

Many dental practitioners have sought to correct the deficiency of mineral salts in the blood, from which the teeth draw their nutriment, by administering doses of the phosphate of lime, which is by far the most abundant mineral ingredient of the teeth. How far this treatment has been successful is not yet known; there has been no extensive record of cases. It is, manifestly, good practice to furnish the deficient substances as far as possible through wholesome foods that contain them. At least such practice can do no harm, and is probably a more natural mode of supplying them. Oysters, beef-steak, milk, beans, peas, and barley as well as wheat, are rich in the mineral salts that are concerned in building up enamel and dentine, and should be abundantly supplied to all children.

Bolting wheat flour, for the most part, removes the mineral constituents of the grain along with the bran. It is thought that the extensive and long-continued use, of flour thus deprived of its mineral constituents, has been one cause of that general predisposition to caries which afflicts this generation.

It is very desirable that this subject should receive the attention of our thinkers and writers. Let us have articles on all the questions connected with this topic. The causes of decay, the nature of the mineral salts, the question how best to supply them, the degree of success already attained in improving dental tissues by their exhibition, and to what extent the unorganized phosphates are assimilated all need to be set forth. We need records of cases, reports of experiments, and the results of research in any and every direction.

The Microscope.

The dental profession have found the microscope almost indispensable to a right understanding of the diseases of the teeth. This instrument is destined to play a still greater part in future courses of instruction than it has already done in the past.

It is now held that the gravest defects in the minute organization of enamel and dentine are nearly universal.

Too much study can not be given to the microscopic structure of normal tissues, and to the points wherein defectively organized teeth present differences of structure. To chemistry and the microscope we look for an explanation of many unexplored problems in dental pathology.

To the actual practitioner the microscope can not but be of very great service. It will be an eye beyond his own, to reveal conditions of which he could never have dreamed but for its aid. The microscope is as important to him who would understand and operate upon living tissues as the telescope to the astronomer. Each instrument reveals a world of its own; both reveal phenomena that would be invisible, and must have remained undiscovered, without its aid.

New Treatment for Exposed Pulp.

Mr. Coles, of the Odontological Society, of Great Britain, proposes to treat exposed pulps with pepsin, especially if there is a suppurating surface. The pepsin digests off the diseased portion of the pulp, leaving only the healthy tissue, which is delicately capped and saved. The pepsin is to be mixed with two per cent. of hydrochloric acid, and left in the cavity three days.

More than a half century ago pepsin was used in Philadelphia as an application to cancers and indolent sores. It possesses the property of dissolving away the non living and partially disintegrated tissue, which is the source of their offensive odor. On the other hand it does not attack or even irritate those parts which retain any considerable degree of vitality.

There would seem to be one advantage to the practitioner in the pepsin treatment, in the fact that if the vitality of the pulp, or any

portion of it, is very low, this portion will be dissolved along with the non-living parts. The pepsin only ceases to act at the point where it meets with vital resistance. This mode of action may derive illustration from the well-known fact that parasites in the stomach are not acted upon by the pepsin of the gastric juice so long as they live; once dead, digestion begins immediately, and they are entirely dissolved away.

If the vitality of a diseased pulp is very low, the pepsin might entirely destroy it. It appears, however, from discussions on this point in the *British Journal of Dental Science*, that entire destruction of a pulp does not result from the pepsin treatment when there is such a degree of vitality as might give a reasonable hope of saving it by capping.

There is a growing conviction on the part of our best practitioners, that such portion of the dental pulp as is healthy, or can be made so, should be preserved alive. If further experimental investigations should confirm what is already believed, pepsin may prove a valuable addition to our dental *materia medica*.

Personal.

It will be interesting to the profession to know that Mr. Chas. S. Tomes, son of the eminent dentist, microscopist, and author, John Tomes, of Cavendish Square, London, is at this time on our shores. He is a young man of twenty-eight, and by his physical vigor is a living proof that the practice of dentistry in London may be so combined with lecturing before dental students as not to seriously interfere with sound health.

Mr. Tomes gave the address at the late commencement exercises of the Harvard Dental School. He has since been making hurried visits to each of the centers of dental intelligence in this country, with a view to investigate our modes of practice, and the state of dental education.

On Monday evening, March 10, Mr. Tomes had a reception by the profession of Cincinnati, at the rooms of Prof. J. Taft. After a short address by him on the state of dental education and dental legislation in England, there was a free interchange of intelligence on the various aspects of practice in the two countries. Many questions were answered on both sides, during which it appeared that the teeth in the United States are not more subject to decay than in England; that quacks are not found exclusively on this side of the Atlantic; that in London a practice can be secured through recommendations, but not easily through skill alone; that expensive contour operations are less common in England than in America; that the uniform fee for a single sitting in England, be it long or short, is one guinea, or about five dollars.

There is but one body in England who grant diplomas, namely, the College of Surgeons. They are entirely distinct from the dental hospital, which is the educating body. The student is carried through a four years' course before he is allowed to present himself for examinations.

Mr. Tomes is writing a manual of Odontology, which will be published during the current year. He intends to embark for London on the first of April. His courteous manners and evident culture are winning for him golden opinions among the members of our profession on this side of the Atlantic.

Personal.

Dr. M. Stout, of this city, and recently of Marietta, sailed on February 1st, from San Francisco, for Hong Kong, China, to engage in dental practice.

Very strong inducements were held out to him to go into a very large practice, which has been established by a gentleman who went out from the Ohio Dental College some seven years ago; and who has made a reputation and a success, of which any one might well be proud.

Dr. Stout leaves a large circle of friends and well wishers, both in the profession and in society. Many such fields are open, and inviting those in our profession who are thoroughly prepared to occupy them.

Mississippi Valley Dental Association.

The twenty-ninth annual meeting of the Mississippi Valley Dental Association was held in the Ohio Dental College on the 5th, 6th, and 7th of March. It was fully as well attended as any previous meeting. Though the oldest association in the world, it is young yet in zeal and activity.

The discussions were lively and interesting; the papers presented were exceedingly good, and covered a large range of topics.

In our next number we shall give a report of papers and discussions.

College Commencement.

The twenty-seventh annual commencement of the Ohio College of Dental Surgery was held March 4th, in College Hall, on Walnut St., in this city. The exercises were of a pleasing and interesting character. Music, both vocal and instrumental, enlivened the hour. Six-

teen members of the recent class, having passed a satisfactory examination, were presented for graduation, and received the degree of Doctor of Dental Surgery, viz: John Stephan, J. Clark Scott, C. P. Dennis, B. F. Bowman, T. G. Dennis, R. J. Cunningham, S. E. Goe, F. W. Sage, H. A. Downing, R. N. Baughman, J. W. Wortman, J. Jones, Chas. H. Ware, Ohio; T. S. Hacker, N. C. Thomas, Indiana; A. W. Smith, Tenn. As has ever been the custom in this institution, a neat copy of the Bible, as a rule and guide through life, accompanied each diploma.

The class was addressed by Dr. Jas. Taylor, President of the Board of Trustees. The address on behalf of the faculty was delivered by Dr. Thos. Reamy, of the Miami Medical College, of this city. The valedictory on behalf of the class was delivered by B. F. Bowman, after which some delightful music closed the exercises. The next regular session of the institution will begin about the 15th of October next.

Obituary.

Died March 5th, at his home in Troy, Ohio, Dr. B. F. Rosson, of a severe and painful illness. Dr. Rosson was well and favorably known through the profession in Ohio. He had been in practice some twenty-five years, and ever maintained a high standard of professional honor; he was always found in the right.

His loss will be severely felt by the profession, and more by the people amongst whom he dwelt, but most of all by his bereaved and sorrowing family. But the rich goodness, and memories that flow out from a well-spent life, remain for their comfort and consolation.

The Dental Law.

Just before going to press we learn that the Legislature of this State (Ohio), has made a change in the law regulating the practice of dentistry, by which five years practice is to be regarded as a compliance with the requisitions of the law. There is a diversity of opinion as to the propriety of this change. Many were anxious to have a thorough test of the law in its original requirements. We think the law in its present shape will fail to accomplish the good it would have done as before; still in its present form it will accomplish great good for both the people and the profession.

Local Anæsthesia.

J. H. Bill, in Braithwaites Retrospect says, "If a portion of skin is covered with a cloth, soaked with a saturated solution of carbolic

acid, for half an hour, and then a streak traced across the surface, with a camel's hair pencil, dipped in the acid, liquified by one-twentieth its bulk of water, the skin may be divided along the course of the streak with a sharp scalpel, quite down to the subcutaneous and cellular tissue, without causing any pain. "The severity of the lancing in dental abscess, may be very much modified by taking advantage of this quality of carbolic acid.

Matrimonial.

Married, on Teusday, February 11th, at St. John's Church, Baltimore Co., by Rev. L. A. Morgan, Prof. J. S. Cassidy, of Leavington, Ky., to Miss Eliza A. Guyton, of Glen Kalmia, Baltimore Co., Md.

Longevity of the Professions.

From the observations of Dr. Grey, published some years since, it appears that gentlemen with incomes enjoy a greater longevity than any other class, and that the next most favorable positions with respect to length of life, must be accorded to medical men, the next to clergymen. What the longevity of the dental practitioner will be it remains for the future to determine, though it is probable that it will be somewhat less than that of the medical man.

Notice.

We have received the following communication from the Committee on Literature, of the American Dental Association, and are requested to publish it:

"The Committee on Literature of the American Dental Association would request members of the profession to inform them of any new works which have appeared, or may appear, before the next annual meeting of the Association, in order that no work which should properly be considered by the Committee, need be overlooked by them."

GEO. H. CUSHING, Chairman,
550 Michigan Ave., Chicago.

E. A. BOGUE,
29 East 28th. St., New York.

C N. PIERCE.

Philadelphia.

THE
Dental Register.

VOL. XXVII.]

APRIL, 1873.

No. 4.]

COMMUNICATIONS.

Nitrous Oxide.

BY G. Q. COLTON.

The question is still sometimes asked, "Who discovered anæsthesia?" To some readers of the DENTAL REGISTER, the following facts may prove interesting.

On the 10th of December, 1844, I gave an "exhibition of the effects of laughing gas, in the city of Hartford, Conn. Among those present, was Dr. Horace Wells, a dentist of Hartford. A young man by the name of Cooley, while under the influence of gas, jumped about, and ran against some wooden settees on the stage. As he sat down next to Dr. Wells, the latter remarked, "You must have hurt yourself;" you run against those benches." Cooley at that moment raised his pantaloons, and was surprised to find his skin bruised and bloody, and declared that he was not aware of having ran against the benches, and felt no pain until the effects of the gas had passed off.

At the close of the exhibition Dr. Wells came to me, and related the experience of Cooley, and asked why a tooth

could not be drawn without pain, while the patient was under the influence of this gas. I replied that I did not know, as the thought had never occurred to me. He said he believed it could be done, and he would like to try the experiment, that he would try it on himself first. Accordingly I agreed to take a bag of gas to his office the next day for the purpose. I did so, and Dr. Riggs was called in to perform the operation. I gave the gas to Dr. Wells, and Dr. Riggs extracted an upper molar tooth. On recovering consciousness, Wells slapped his hand on his knee, exclaiming, "*It is the greatest discovery ever made! I did not feel it so much as the prick of a pin!*" This was the first surgical operation ever performed, where an anæsthetic was used to destroy pain—and the honor of the discovery belongs to Dr. Horace Wells.

Now the future history of anæsthesia, and especially as connected with sulphuric ether, is somewhat "mixed," but if the reader will note carefully the following facts and dates, he will not have much difficulty in reaching a fair and just conclusion.

After Wells made his first experiment on himself, (December 11th, 1844) I instructed him to make the gas, and then went off on my exhibition tour. About three weeks subsequently, I saw a paragraph going the rounds of the papers, that a Dr. Wells was extracting teeth *without pain* in Boston, while patients were under the influence of laughing gas! After Dr. Wells had tried the gas in Hartford for a few weeks, and satisfied himself of its value as an anæsthetic, he went to Boston to make the discovery known to the scientific world. For this purpose he called upon many physicians, surgeons and dentists, relating what he had done. They all laughed at him, and ridiculed his pretensions. Dr. Warren consented to introduce him to his class in Cambridge College, when, after a brief address, Dr. Wells administered the gas to a young man, and extracted a tooth. The young man cried out, though he declared that he experienced no pain. The experiment was pronounced a failure, and Wells was hissed.

Among the dentists upon whom Wells called, was Dr. Morton, his former pupil. Dr. Morton treated him with ridicule, as had all the others. Dr. Wells returned to Hartford, dis-

couraged, and resumed his practice, using the gas, however, in extracting teeth. This he continued till the end of 1845, about one year. We have the testimony of Bishop Brownell and his daughters, as also some forty others of the most respectable citizens of Hartford, that *during this period* Wells extracted teeth for them without pain, using the nitrous oxide gas.

At the close of December, 1845, or early in January, 1846, Wells went to Europe on account of failing health.

In the latter part of September, 1846, Dr. Morton having seen notices of Wells' operations, went to Dr. Jackson, a leading chemist of Boston, to learn how to make laughing gas, as he wished to test the truth or falsity of Wells' pretensions. Jackson said to him, "Why, that gas exhilarates, makes people laugh, dance, etc.; if that will destroy pain, sulphuric ether will do the same. If you wish to try anything, try ether, and avoid the expense of apparatus to make the gas." These were substantially his words. Acting upon this hint, Morton purchased some ether, and, according to all the testimony, *including his own*, Morton's first experiment with it was made on the 30th of September, 1846, almost two years after Wells had used the gas. There is the strongest proof that Wells had tried ether before he went to Europe, but did not like it, preferring the gas.

Morton reported the result of his experiment to Jackson, when they instituted a series of experiments with ether, which, proving successful, they made a joint application for a patent for the discovery of the anæsthetic effects of ether.

This application was signed—*Charles T. Jackson, William T. G. Morton*, and dated "this 27th day of October, A. D. 1846." Before the patent was issued, however, it would seem, that Jackson thought the whole affair might turn to no practical result, and he sold out to Morton his interest in the invention, and wrote to the Commissioner that he had assigned to Morton all his (Jackson's) interest in the patent. The patent was therefore issued to Morton.

When Wells returned to this country, he was astonished to learn that Morton had obtained a patent for the discovery of the anæsthetic powers of ether, and even claimed the

honor of *the discovery of anæsthesia!* A discussion on the subject followed between them, in the Boston *Medical Journal*. This discussion, and the mental anxiety in regard to the possibility of losing the honor, which he knew belonged to him, so worked on the sensitive nature of Wells, that he became deranged, and died in New York, January 24th, 1848.

At this time no one had used the gas as an anæsthetic, save Wells, and it was some years before the surgical and dental professions recognized and adopted *any* anæsthetic. After the death of Wells, *Morton set up the claim that nitrous oxide was not an anæsthetic*, and that anæsthesia could in no way be produced by it; therefore he discovered anæsthesia. As there was no one at this time who had the inclination, or the necessary information on the subject, to defend the claims of Wells, Dr. Morton's story was generally believed; and thus many eminent men were led to commit themselves on the subject, in favor of Morton. This state of things continued for twenty years, the nitrous oxide having passed out of the public mind as an anæsthetic, till I *revived* it in 1863. The facts attending this revival are as follows:

Not being a dentist or a surgeon, I had no use for the gas as an anæsthetic. But I remembered the experiment with Wells, and often recounted the above facts in my introductory lectures. On one occasion at New Britain, Conn., during the summer of 1862, after stating the above facts respecting Wells, a lady asked me if I would administer to her the gas, and have a dentist—whose office was in the building—extract some teeth. I consented, and the dentist, whose name escapes me at this moment, extracted teeth not only for this lady, but for two others. This dentist was so delighted with the operation that he insisted upon my instructing him how to make the gas. A year passed, when I returned to New Britain again, in 1863, to give another series of lectures and exhibitions. I learned that this dentist had used the gas during the past year with entire success, giving it, as he stated, to over *six hundred patients?* I told him that he was the first dentist whom I had been able to persuade to try the gas. As I was going to New Haven to lecture, I asked him if he would come there, and we would ex-

tract teeth for one week with the gas, as I wished to establish its anæsthetic power. He came, and we commenced in the office of Dr. J. H. Smith, where, with the aid of Dr. Smith, we continued the business for three weeks and two days, in which time we extracted something over three thousand teeth and stumps. This, I thought, was a little better business than lecturing, often to "a miserable account of empty boxes," and determined me to come to New York, and establish an institution devoted exclusively to extracting teeth with the gas. As my name has been for so many years inditified with laughing gas, I called it the "Colton Dental Association."

It will be seen by the above that I claim no honor in the *discovery* of anæsthesia. That honor belongs to Dr. Wells. But I confess to some pride in being the *occasion* of the discovery, and of having given the gas to Dr. Wells for the first operation ever performed with an anæsthetic. If any honor is due me, it is in reviving and establishing the use of the gas, after it had lain dead and forgotten for twenty years.

As to the value of the gas as an anæsthetic, I can present no stronger evidence than the following facts: After I had given the gas for nine months, I commenced, Feb. 4th, 1864, to ask my patients to write their names on a scroll. These names I have numbered regularly from the beginning: The present number on the scroll is *sixty three thousand three hundred and six*. (63,306) In all this number we have never had an accident, or even had to call a carriage to take a patient home. We have sometimes had patients swallow some blood, causing nausea and vomiting; and in rare cases vomiting where no blood was swallowed, owing to some peculiar condition of the stomach or nervous system. *There has never been a well authenticated case of death from the effects of the gas.*

In a communication in the REGISTER of May last, signed "H," the writer assumes that the death of Mrs. O'Shaughnessy in this city, was caused by the gas. It was proved at the Coroner's inquest that she only *attempted* to inhale the gas three or four times, and finally concluded to have her teeth drawn *without the gas*, which was done. The woman

was in a fearful state of nervous excitement, and as much afraid of the gas as the pain. She fainted from fright and shock to the nervous system—an occurrence which has taken place many times before the gas or anæsthesia was thought of. I think Dr. Newbrough, the dentist, made a mistake in not placing the woman flat upon her back as soon as the fainting occurred. At the inquest it was found that the lungs were in a state of congestion, and the verdict of the jury was that death was caused by “asphyxia,” which in their opinion had been induced “by gas administered.” Now all authorities, including *Prof. Ziegler* and *Prof. Doremus*, lay it down that the quickest remedy for asphyxia is to administer nitrous oxide gas; that instead of producing, it prevents congestion. *Prof. Weisse*, one of the jurors, stated at a recent meeting, held in the College of Physicians and Surgeons in this city, that the jury used the words “gas administered,” and purposely avoided the words “nitrous oxide,” as they thought the gas might have been impure, or chloroform might have been put into the bag. In justice to Dr. Newbrough, I should state that there was no evidence that chloroform was used. And I went to his office the next morning, and at his request inhaled some of the gas which was still left in the gasometer, and found it pure gas. It is perfectly clear to my mind that if the woman had taken the gas properly, she would have been alive now. She died because she had her teeth drawn *without* the gas. There would have been no shock to the system, and she could not have fainted. She had not taken as much gas, in all the attempts, as I would give to a child two years old.

A word of advice, in conclusion, to dentists. When *chloroform* is administered, and the patient is carried to the point of stertorous breathing, it is considered a point of danger. But with the gas the point of the stertorous breathing is only the *commencement* of the anæsthetic sleep. Dentists, fearing to give too much, often stop at this point, and by the time they get the instrument on the tooth, the patient is half awake, and, of course, experiences pain.

I would not be understood as saying that there is no danger in the administration of nitrous oxide gas. No doubt in-

jury can be done with it. Caution, judgment, and discretion, are to be exercised. It is very important, also, to have a pure gas. It should always be given from a valve mouth-piece, and not from a bag; though a bag can safely be used for most patients, provided it holds from seven to eight gallons. With the valve mouth-piece, all carbonic acid is avoided.

"Materials Used in Filling Teeth."

BY W. H. MORGAN, M. D., D. D. S.

Read before the Tennessee State Dental Association.

Mr. President:—I have recently learned that it is my duty to report to this association upon materials used in filling teeth. Although there is nothing new in the profession on this subject, so far as I am aware—that is, there is no new material, nor any new form of those, in use, save some immaterial modifications—I shall briefly run over the list, and give what I conceive to be the latest and most generally accepted views on the subject, together with my own experience and conclusions:

Hill's Stopping. This material, chiefly made of gutta percha and quick lime, has undergone no modification or improvement in its manufacture for years past. The facility with which it can be applied, its tendency to adhere to, and not shrink away from the walls of the cavity when properly applied, together with its cheapness, make it a valuable material for temporary fillings, especially in positions other than the grinding surfaces of teeth. It is especially valuable to protect the pulp during its treatment preparatory to filling, enabling the operator to shut out the fluids of the mouth, or any other irritating substance, from the cavity, during such treatment. It is also used to enclose and shut in any disinfectant used in teeth, the pulps of which have been long dead, and which are consequently offensive to the olfactories. For filling the roots of teeth preparatory to filling the crowns, it is one of the most valuable preparations at the dentist's command; after being warmed properly it may be so manipulated as to answer this purpose; perhaps, more perfectly than any material now used by the profession. I am sorry to say there are hundreds of men in the profession who never use it, indeed who never saw it.

The next article I would call your attention to is oxychloride of zinc and its kindred preparations, including Killint's Cement, etc.

Killint's Cement has proven very unsatisfactory in my hands. I obtained it of Dr. Killint in person, so it was the genuine article; it sets slowly, too slowly, is easily damaged by the fluids of the mouth, and is not sufficiently hard after it sets, being softer than any other preparation of the kind I have used. Next to this comes Roberts' os-artificial, and Smith's os-artificial, of about equal merit, both valuable preparations. Cement Plomb I have not used; it is highly recommended; said by some of our profession, very capable of judging correctly, to be the best of all these preparations. Guillois' Cement is being extensively used, and is of great value; it is more plastic than any of the above, does not set too rapidly, and is harder than any of them, and is of several grades in color.

It is used with success in filling the roots of teeth, and in such as have very weak walls, and is the "*ne plus ultra*" for capping exposed pulps, and partially filling these cavities when the pulp is very nearly approached, and a nonconductor is required. I have never seen but one tooth lost when this filling was used for the latter purpose. Whether its value in capping pulps is due to greater congeniality to that organ or tissue, or to its ready adaptation in form to it, I am not prepared to say; probably to both. I would not know how to practice successfully without it.

Tin foil, perhaps, ranks next; most of you are familiar with its use. There are but two objections to its use, but both of these are well nigh insuprable. First, it blackens, corrodes in the mouth, both when it comes in contact with the fluids of the mouth, and when fluids are infiltrated behind or under it. Second, it is too soft to bear mastication; when used for any length of time will wear out, and needs often to be renewed. Its greatest recommendations are: it is less liable to corrode than any cheap material now in use in pure metallic form, and it is softer. Observation has satisfied me that its softness and lack of malleability often mislead the operator, and he fails in consequence to make a compact filling with it.

Oxidization between the folds of the foil, and decay beneath the plug, consequent upon the permeation of the fluids of the mouth, being often the result, more care and more force is requisite in packing it than are generally used.

Amalgam comes next in order, and is the most valuable of all the cheap materials now in use, except for filling roots, filling over pulps, and for protecting against thermal changes.

With the lights now before me, I am not prepared to recommend any particular make or brand. I know that much of that in use shrinks in hardening, and is useless or nearly so to preserve a tooth. Its excellencies, if you will allow me to use that term, consists in cheapness, ready adaptability to the cavity, and solidity after it hardens; one-half or two-thirds of a tooth can readily be built with it. It requires very little skill to use it, and it were better for all interested, if the major part of our profession, or those calling themselves dentists, would never attempt to fill a tooth with any other material; they have, or may learn to fill a tooth well with this material, they never can with gold, the only other material they pretend to use. But its very cheapness seems to lead to carelessness in its use; every possible care should be taken in the preparation of the cavity for filling; the materials should be carefully ground together, and most thoroughly washed, so as to remove all oxidized matter, the mercury well pressed out, and then packed in the most neat and thorough manner, and when hardened, nicely polished. Perhaps as much as twenty-four hours should elapse before this latter operation is done.

The objections argued against the use of this material for filling teeth are: First, it shrinks, leaving open interstices around the plug, through which foreign matters find their way beneath the filling, and decay is the result; this objection is justly made, although the shrinkage is often so small that the mischief or evil is done slowly. It is claimed that some of the preparations now offered in the market are free from this objection. Doubtful. I have had sad cause to modify my opinions on this subject within the last year. Second, it corrodes and discolours the teeth; this is generally true; always in these cases where it is used in devitalized

teeth, and there is some matter passed into the posterior of the filling, either through the foramen at the point of the root or by endosmotic action, and in all cases where there is much oxidization about the margins of the cavity, the secretions and fluids of the mouth will penetrate around the filling, and decay will sooner or later follow. Third, It is claimed that large fillings will produce ptyalism. I do not think this point is well taken; in more than a quarter of a century's constant practice, I have never met with such a case, unless it was a case of local not general ptyalism. I think it probable I have met with a case or two of the latter. Fourth. As it is manifestly improper to use amalgam in the front teeth, it is said it must only be used in such mouths as do not need any filling, requiring gold filling on account of galvanic action. Observation has led me to repudiate this view, as in my extended observation I have never seen any evil effects result from having the two metals in the same mouth, not even in those cases in which they came in actual contact, a large number of which I have seen.

And now, Mr. President, I come to consider the merits of gold, "the king of metals," as a material for filling teeth. There are four prominent objections to it for this purpose: First. The difficulties of manipulating it into a perfect filling, or one so nearly approaching perfection as to preserve the tooth from further decay. According to the best authority I have been able to consult, not more than one in four of the dental practitioners in this country, and a much smaller ratio in Europe, ever attain sufficient skill to use it so that any benefit, even the smallest, is derived by their patients; and the number out of this proportion who use it with any considerable degree of skill, is fearfully small; I am ashamed to suggest their number. It is true, sir, that recent improvements and modifications in preparation of gold for filling teeth have greatly lessened this objection. Second. Its cost: this is a trouble we will perhaps never overcome, the general good of our race would not be greatly promoted thereby. Third. Its color; there is no reasonable expectation that this will ever be corrected, although a few years since some French savant announced that he had succeeded in so enamelling

fillings in the mouth as to give them the appearance of the natural teeth. Fourth. Its conducting power; subjecting the pulp of the tooth when the filling is large, and often when small, if very compact, to violent thermal changes, producing pain, irritation, and inflammation of that organ.

Its excellencies are its indestructability, its almost entire freedom from wear by mastication, and its cohesive qualities by which a filling may be made a unit, and by which a large portion, if not the crown of a tooth, may often be permanently restored. The forms in which gold has been used for filling teeth are various: soft foil, or more properly non-adhesive foil, adhesive foil, rolled gold, Eureka filling, the various forms of sponge gold, known as sponge, shred, and plastic gold. Non-adhesive foil has been, and probably now is, the most extensively used of any form of gold; it is not of so universal application to cases, nor can such excellence be obtained in operations as with the other preparations; it has the virtue of being more easily adapted to many of the cases in which it is applicable than any other form of the metal, but so firm a filling can not be made with it as with adhesive gold. Its manufacture has been improved within a few years past, I think, in softness, and certainly in toughness.

I might have added, among the objections to gold, its hardness; I have never seen a sheet of foil yet as soft as I would like it.

Sponge-gold is dependent entirely on its cohesive properties for its value for our purposes, and although it has been, and now is used by some members of our profession exclusively, or nearly so, there have always been serious well-founded objections to it, among which are the difficulty of packing it perfectly against the walls of the cavity, and the impossibility of producing, or procuring a uniform article in quality. The great mass of those who experimented with it, and were disposed to adopt its use in their practice have abandoned it; if not entirely, at least in general. Both shred and plastic gold are but coarser preparations of the same article; the gold being in the same form are liable to the

same objections, and have justly shared the same fate as sponge so-called.

Adhesive foil is now more generally used by the more advanced in the profession than any other form of this material. For the sake of convenience, and to save time, I will consider under this head the rolled gold and Eureka filling, as well as adhesive foil.

The rolled gold is used from the ribbon directly from the mill after cleansing and annealing. One manufacturer, Williams, changes the character of the surface from a smooth to one apparently crystalline, by immersing it for a short time in *aqua regia*, thus removing the smoothness left by the rollers. The foil which he makes into blocks is also prepared in this way, and is all very adhesive. The Eureka filling now prepared by Vallean, originally by Geo. S. Pack, is prepared by first drawing the pure gold into wire, then rolling under water, and afterwards annealing. This preparation is proportionately the softest and most adhesive of all the preparations of this metal yet offered to the profession for filling teeth, and for some cases is undoubtedly the best. The first advantage that adhesive has over the non-adhesive, is its universality of application; it can be used in all cases where the non-adhesive can, and in many where it can not, it makes a harder filling; it wears less, may be made to protect frail edges, and restore contour; such is its excellence in this regard, that the file can almost be entirely dispensed with as a separating instrument, especially in the back teeth. The heavier foil or gold is softer, and of consequence more adhesive than the thinner; with it therefore a more perfect filling can be made than with the thin; beneath the mallet it is plastic, may be made to spread out in the cavity, and so fill it perfectly. Adhesive gold in some form is rapidly taking the place of non-adhesive foil with all the more advanced in our profession; nearly all of our dental colleges have adopted it, the few who have not done so entirely, have to such an extent, that it can hardly be said that any of our educated young men are learning to fill teeth with non-adhesive gold. Among all the rapid strides in the way of improvement in the last quarter of a century, this is the great-

est, and will be the grandest in results. When I reflect that nearly all of the young men now being introduced into our profession through regular channels; all who are taught in our colleges; all those who are to take prominent position, not only as practitioners but as teachers, repudiate the use of non-adhesive gold entirely or nearly so. I know it does not take a prophet, or the son of a prophet, to tell its fate, that in another decade it will be numbered with things which were and are not. Adhesive gold belongs to, and keeps company with improvements; as the mallet, rubber dam, burring engine, etc., etc. And he who will keep time to the march of dental science, must take hold upon it and adopt it, or ere long he will lie behind the rear guard; will no longer belong to the noble army now besieging the ramparts of ignorance, and seeking to carry blessings to suffering humanity; but will be a mere hanger on, a camp-follower, fit only to prey upon the weak, the ignorant, and defenseless.

**Annual Address before the Mississippi Valley Dental Society,
by the President, Dr. F. H. Rehwinkel.**

Gentlemen of the Mississippi Valley Dental Association: Again have we assembled in this, to us all, familiar and dear old hall. We have come from the East and from the West, the North and the South, to enjoy once more the privilege of participating in this our annual reunion. Once more have we exchanged greetings with friends and brethren, and felt the pressure of the warm hands of many, whom we see but once each year. A year!—how long! when a space of time, composed of so many months, weeks and days, intervenes between us and the object of our wishes; and yet how short when past. It seems as if but a few weeks has elapsed since we said to each other in this very place, “Farewell! Farewell, until we meet again.”

Through the blessing of our Heavenly Father, who vouchsafed us life and health, we have found our way again into this council chamber, where we are wont, not only to deliberate, but to work for the honor and welfare of our chosen profession. Let us all cheerfully do our allotted share.

We will in the first place take a slight retrospective view
Vol. xxvii—2.

of the state of the dental profession. I believe it would be in vain to look for one among us, who is not willing to acknowledge that in many respects we are neither standing still nor retrograding, but are "marching on." None will fail to see that the operative department is steadily advancing to perfection. If we compare the general result of this branch, the character and qualities of operations of to-day, with those of only a few years since, we must admit that good and durable gold fillings are now the rule, instead of the exception; that many thousand teeth are now being successfully preserved, which but a short time since were sacrificed to a supposed necessity; thus calling for artificial substitutes. The eye is daily gladdened by the sight of operations, which to the man of average ability, ten or even five years ago, were simply impossible.

Let us therefore render all due acknowledgements to those who have given us the means of accomplishing results so satisfactory. What and where would we be without Barnum's "rubber dam?" Would those of you who are using mechanical power in dental operations, such as burring engines, electrical or automatic pluggers, together with numerous other late auxiliaries, willingly be deprived of their use? Last, but not least, we have our faithful allies, the "gold beaters." Side by side have they marched with us in this progress toward perfection in the making gold fillings. There has been among them a constant spirit of emulation as to who could best develop the manifold qualities of the material in question, and present it to us in the most suitable and convenient form for use.

Dentistry in its scientific development is making fair and promising progress. Able and earnest men through the aid of the microscope, are investigating every tissue of the human body, and are adding certainty to points hitherto less clear, and to a great extent hypothetical. Physiologists and pathologists, not idle, are industriously collecting, comparing, and recording results. And when human knowledge seems to be in doubt or at a stand still, "Inspiration," we are told, "opens the eyes of its favorites;" thus making them the medium of expounding mysteries, correcting errors, and rend-

ing the veil which yet hides many things from the eyes of ordinary mortals. Through the aid of such instrumentalities it is but reasonable to hope that ere long our brethren across the water will have no occasion to say: "that although America may perhaps excel as far as practical dentists are concerned, in a scientific point of view, she must, for the present, take a back seat."

I have presented to your view some established facts, highly gratifying as regards the present, and with reference to the future, stimulating. Thus far all seems well with us; but while we have reason to congratulate ourselves upon achievements in one branch, let us see how stands the other, I allude to the mechanical department; I fear there is nothing encouraging to be said on this subject. To my view it presents itself as a bad omen, that by common consent, as it were, we have, and are considering it merely a question of time, as to when the actual separation of one branch from the other shall take place. Why is it that most of our best dentists have become disgusted with it, and as much as possible avoid the laboratory? Are not a great many of our brethren almost ready to abandon it altogether, were it not, that by so doing, they would virtually surrender this branch entirely to dental charlatans and huxters? These questions can be answered by every one present. The causes which have led to this state of things are so plainly to be seen around us, that I will not waste time by specifying each and all, preferring to call your attention to the principal facts which have arrested progress in this department, and to a consideration of how far we are all answerable for the same.

You recollect when hard rubber and kindred materials as bases for artificial dentures made their appearance, they were hailed by the profession as valuable *auxillaries only*. Who would have thought that in a few years the more difficult, but truly artistic work of platina, porcelain, and gold, would be looked upon by many as things of the past? Who would have imagined that blind enthusiasm would cause the master to think it "not worth while" to teach this kind of work any longer? Was it to be supposed that dentists would be found a few years later who were utterly incapable of con-

structing a metallic plate? Would you not have laughed to scorn the prophet who would have foretold that the introduction of these new materials would eventually have a demoralizing effect upon the whole profession? I said that all of us must take our share of blame; for did we not all, more or less, abandon the use of metallic bases for artificial plates, especially when the high premium on gold furnished us, for a time at least, an excuse for using *substitutes*? Artistic work and low prices are incompatible, and can not exist together. A quotation from Josiah Wedgwood, which I found in a pamphlet by James W. White, on "taking impressions of the mouth," published by S. S. White, "forcibly and admirably contrasts excellence and cheapness, and is so applicable to every variety of cheap dentistry," that I give the quotation in full:

"All works of taste must bear a price in proportion to the skill, taste, time, expense and risk attending their invention and manufacture. Those things called dear are, when justly estimated, the cheapest; they are attended with much less profit to the artist than those which everybody calls cheap. Beautiful forms and compositions are not made by chance, nor can they ever, in any material, be made at small expense. A competition for cheapness, and not for excellence of workmanship, is the most frequent and certain cause of the rapid decay and entire destruction of arts and manufacture."

Vain has been the earnest and loud protest of our best men against a continuance of this suicidal course. Vain has been the zealous endeavor to enlighten the public as to its own best interests. "Dental slaughter houses," as friend Osmond calls them, on the one hand, and "tooth carpenter shops," called steam dental establishments, on the other; the one to rob the mouth of teeth which might be saved with even ordinary skill, and the other supplying the loss with sets of "store-teeth," for from five to ten dollars, seem to have had the advantage. Consider too the numberless dental huxters, going from house to house, tearing out every tooth they can lay their hands on; here cooking up a set of teeth on rubber, and there on gun cotton and camphor.

Gentlemen, mechanical dentistry cries aloud for succor and

support, and demands of us its preservation as an art. As such, it is worthy and deserving of our best efforts; looked upon as a trade, it needs no help—being well able to take care of itself. This subject will be presented for discussion in the regular order of business, and to it I invite your earnest attention.

It is equally desirable to secure to our profession a more dignified position in the estimation of our colleagues abroad. Our national associations, to which we might naturally look to conceive and mature measures, promotive of the interests of the whole dental profession in the United States, have thus far utterly failed to do, or suggest, anything conducive to this result; preferring to fritter their time away with affairs of personal or subordinate import. I think it therefore judicious and well-timed to suggest to this association, older than all others, the propriety of taking the initiative in a matter of reform, demanded by justice, and called for on the part of its members, by true manhood and dignified modesty.

It is a matter of surprise and ridicule to English and other European dentists, that we in this country prefix the title of "Doctor" to our names, without having the slightest claim thereto. Our foreign brethren are often tempted to regard us as a set of presumptuous pretenders, or vain and weak-minded fools. They will as a matter of course look upon our habits and customs from their own standpoint, and will fail to comprehend that titles are "lying around loose" in this country, and may be had for the picking up. We might tell them that not only dentists are in the habit of assuming or accepting this title, but almost every man who sells castor oil or tinct. of cinnamon, in due course of time, despite himself, gets a label with "Doctor" stuck on to him. Then those gentlemen, who visit us periodically with a "well selected stock of dental goods," submit with commendable resignation to their doctorate, conferred upon them by their house. The very urchins of our office, who wield the mallet, and strike the blows, are called "Doc" by their playmates in the street.

The American people are proverbial for their good nature and fun-loving proclivities, and frequently bestow titles in a

humorous or frolicsome way, often intending them as "nick-names" only. If this could always be understood abroad, little harm would be done to professional dignity; and however much it may lessen the value of titles, it would explain the habit of bestowing them. It is not so easy to say why we, as professional men, should likewise have fallen into this careless way of giving the title of Doctor to every dentist without distinction; and here is where the seriousness of this thing forces itself upon our attention.

With diffidence I enter upon a further discussion of a subject so delicate in its nature, but trust that I may possess sufficient moral courage to speak plainly and fearlessly of a matter, which necessarily deeply influences our professional standing.

Whether this condition of things is a relic of the time when Dentistry was a mere handicraft, struggling into professional life; whether the title was *bestowed* by the people, or *assumed* by individuals, it is immaterial to know. Our chief concern should be as to how much we severally have aided in perpetuating a custom, no longer in accordance with the times, and detrimental to our true interests as members of a learned profession.

Let us take up the proceedings of dental societies in this country; there is no difference in either local, state, or national associations. Each person is addressed and reported as "Doctor." The title is bestowed indiscriminately, and accepted by all; there is no record of a single instance where a disclaimer to the right thereof was made by any one, to my knowledge. These facts go abroad, and bear witness against us.

I should not weary you, my colleagues, with a lengthy definition of the meaning of the word "Doctor;" in connection with my remarks, it is enough for us to remember that it is an honorary distinction—a degree—conferred by a duly authorized college, either of medicine or dental surgery. Of the latter institutions I think we have eight or nine in this country now; and by these the degree of D. D. S. is legally conferred. Now gentlemen, is it right or just that we should constantly help to render meaningless honors and distinc-

tions, granted and bestowed by said colleges upon their graduates, as a legal recognition of meritorious qualifications? Is it just to the graduates from these schools practically to demonstrate to them, that their degree of D. D. S., and honors connected therewith, and for which they have toiled, and it may be, suffered many privations, amount to nothing?—merely a sham?—because the assumed title receives as ready recognition as theirs, not only from the public but from the members of their own profession!

Finally is it in accordance with true manhood and self-respect to appropriate honors and titles to which we have no claims?—setting up false pretenses, and occupying positions at once questionable?

No wonder that the profession in Europe does not understand this state of things, and looks upon it—to put it mildly—as a strange defect of our otherwise fair professional character.

Before me I have the “*Deutsche Vierteljahresschrift fuer Zahnheilkunde*,” organ of the Central Union of German Dentists. In looking over the proceedings of this Association, the nice discrimination and scrupulous exactitude of giving every one his due is most striking. Here we find the names of men who are shining lights in their profession, and of world wide reputation, recorded as: Herr Ed. Muehlreiter, Zahnarzt, in Salzburg, (this gentleman is the present editor of this journal, and much esteemed as a learned and scientific man). Then we find Herr Adolph zur Nedden, Zahnarzt, in Nuernberg, well known as the former editor of this journal; the translator of “*Taft’s Operative*” and “*Richardson’s Mechanical Dentistry*,” a man of great worth, and of high repute, now dead. We have also men of titles: Herr Hofrath, Doctor Wm. Sueerson, Zahnarzt, Berlin; Herr Prof., and Dr. von Weltz, Kt., etc., Zahnarty, Wuerzburg; Herr Dr. von Langsdorff, Zahnarzt, Freiburg; this gentleman is a pupil of our own Atkinson, and spent several years in this country. He advocates the advantages of our system of dental education; defends us when assailed, and explains and apologises for our “eccentricities.”

In this way I might go on and read to you the list of act-

ive members, some hundred and twenty. In recording the discussions you will see, Herr Schmidt, or colleague Brown, or Herr Dr. Augenzahn, said so and so.

What English dentists think about this loose way of ours, you may learn from that renowned surgeon dentist, Charles James Fox, Esq. I quote his own words, taken from the "*Dental Cosmos*, for June, 1872, page 325.

No. 27 Mortimer St., Cavendish Square, }
London, May 3d, 1872. }

To the Editor of the Dental Cosmos:

"DEAR SIR:—Will you be good enough to remove the *Sir* which has somehow been attached to my name after a short notice of Guillois' cement, which has appeared in your advertisements the last month or two? I did not consider it worth while writing about at first, deeming it a printer's error, which would not be repeated, but as it *has* been repeated more than once, I must beg you to allow me to disclaim in your pages, having any right to the title, and again beg you to remove it. As it is customary with many Americans to address all dentists as Doctor, it may possibly be a misprint for that; but as I hold the English diplomas of M. R. C. S. and L. D. S., and not the American degree of D. D. S., I am not entitled even to the title of Doctor."

I am Dear Sir, yours faithfully,

CHARLES JAMES FOX.

Comments upon the letter just quoted, would only lessen its force; it is complete and speaks for itself. Would it not be well for us all to look upon it as an example most worthy of imitation?

This Association, with its most liberal policy towards its members, seems to me above all others, best fitted to inaugurate a movement of reform in its own midst, without wounding the feelings of any one. We all know that this venerable old society, the mother of the Ohio College of Dental Surgery, has always thrown its doors wide open to every comer; giving everything, exacting nothing. An honorable character as a dental practitioner was the only thing requisite to gain admission, and enjoy full membership. Men of learning become the voluntary and gratuitous teachers of

those less favored. It has always been a nursery for the young and feeble plant; giving it shelter and support. No one cared whether it was plain Mr. Scheider, Dentist, or Herr Hofrath, Dr. Weisheitszohn, who applied for membership. Thus may it ever be; may the M. V. A. ever be in the "vanguard" of liberality to the members of the dental profession; but may it also be just and true to its own dignity.

In presenting the foregoing remarks to you, let me hope, gentlemen, that I have discharged a duty without wounding your pride; I beg to assure you, that only the most anxious solicitude for the welfare and honor of the dental profession at large, had led me to choose a subject, in itself not popular. I have not allowed my mind to become prejudiced by individual cases, however exasperating, and all material which they might have furnished has been scrupulously rejected. I stand before you then, with the best motives, and if I appeal to your sense of justice to lend a helping hand in this matter, let me not plead in vain.

Address by P. G. C. Hunt, at the Opening of the Indiana State Dental Association.

Gentlemen of the Indiana State Dental Association:—In glancing at the changes in dentistry, made during the past five years, it is certainly gratifying to see the advancement that has been made. This is now noticeable perhaps more in the operative department. Here we see a strong determination to elevate the standard of dental operations; so rapid have improvements followed one another, that we look back, and wonder how we used to succeed in any but the most simple cases. If I were now compelled to make a retrograde movement, to be deprived of the use of heavy foils, the mallet, and coffer-dam rubber, I should certainly seek some other calling.

Your Executive Committee have arranged for you a most excellent list of subjects for discussion; and I will not long detain you from their consideration. I wish to call your attention to the action of the other state societies, who have taken steps to memorialize Congress for the appointment of

dentists in the army and navy. I should like to see you also act in this matter.

I would also recommend that in your wisdom, you devise some means by which there might be incorporated in our public school books, more thorough teachings in regard to the anatomy and physiology of the teeth, their importance, and the proper treatment to insure their preservation, etc.

I would further recommend the continuance of the old, or the appointment of a new committee on the subject of a state law to regulate the practice of dentistry. I am of the opinion that a law of this kind would contribute greatly to the well-being of the people of our State; and when understood, would meet with their hearty approval. There are certainly not the difficulties in the way of legislation as regards dentistry that there is in medicine, for there they have different schools claiming attention. Not so in dentistry; here it is simply a question of professional knowledge or ignorance.

Gentlemen, I return you thanks for your kind attention. Be courteous in debate and generous to each other. In our discussions let us search for and hold fast to truths, and leave all personal strife out of our meetings.

PROCEEDINGS OF SOCIETIES.

Discussions in the Mississippi Valley Dental Association.

At the twenty-ninth annual meeting of this association the discussion of subjects reported for that purpose by the Executive Committee, consisting of Drs. H. A. Smith, J. Knapp, and W. P. Horton, was duly had, and the subjects disposed of in so far as the time permitted. The following subject was first taken up:

“Artificial Dentistry; should it be practiced as a specialty? what may be done to raise the standard of operations in this department?”

Dr. Frank A. Hunter opened the subject by reading a paper.

Dr. H. R. Smith called attention to the fact that the time was when a great deal of attention was occupied by the examination of specimen metallic plates; but where are they now? The trouble was, that dentists were discriminating against mechanical dentistry; or, if it received their attention, they kept their knowledge to themselves, and did not impart any of it in the societies and associations. For his part he believed in telling all he knew, so as to benefit the profession to the extent of his ability.

Dr. J. Taft thought it was not because mechanical dentistry was less thought of than formerly that it did not receive attention, but rather because a higher appreciation was set on the natural teeth, and greater effort was made in the direction of saving them; in proportion as dentists succeed in saving those they paid less attention in the former branch. He could not, however, overlook that as a dentist was called upon to practice both branches, the operative and the mechanical he should be prepared to do his best in both. It was not given to all to be perfect in both; some excelled in one branch only. There was a good deal in native ability. A man who could concentrate his power upon one thing, who could command every faculty and acquirement, and bring them to bear upon the performance of whatever he undertook, was sure to succeed. He believed that it was better for the majority to confine themselves to one or the other branch, because the field is wide enough to draw out the ability, and to occupy the time of the dentist. The mechanical branch had become very much demoralized in the last ten years. What is its object? Simply to supply the loss of the teeth, to restore the contour of the face, to restore the function of the teeth. The great majority of rubber sets failed to do this in every particular. So little care was taken in making them, that the workman might just as well do the work without ever looking into the patient's mouth. No attention was given the several conditions required. For example, the miserable manner in which enunciation was secured. Indeed, so poor was this, that one could tell by the mumbling at midnight that the person wore a bad artificial set. Yet teeth can be made so as to restore the speech. But

what is to be done to effect this desirable result? In his opinion it consisted in going down to the bottom, and requiring of dentists a knowledge of the fundamental principles. Where was the man with a grain of sense, who would call a man an artist, who painted a portrait of a loved one with the nose turned one way, and the mouth another, much less take it for a likeness? Oh, but some might take it because it was cheap! Very well, that might do with some; but it is not the right way in art, nor would it be in dentistry.

Dr. James Taylor said he had not given much attention of late years to mechanical dentistry, and had never himself made a hard rubber case. He considered the mechanical dentist an artist in the strict sense, and that it was impossible to make good work with blocks, except the dentist himself made the blocks to suit. The question was how they were to meet the difficulty? The public taste is vitiated. He believed there was higher art in the mechanical branch, yet how could the public be taught to believe so?

Many think it makes very little difference whether they mumble their words or not, or whether articulation is destroyed. He did not believe a good mechanical dentist could be a good operative dentist, because he did not possess the artistic taste.

It was his opinion that something must be done to redeem the mechanical branch, or it would eventually run into the hands of quacks and steam dental shops.

Much of the work now done is put in for \$20 or less, even for those who can afford to pay for having a good set. In conclusion he regarded the whole matter as in the hands of the dentist to direct the minds of his patients to a higher and better standard. He should say to them what the work should be, and firmly refuse to do a meaner job, or put in an inferior article. He wanted it understood that he would not warrant rubber work, and believed if dentists combined on that principle, the difficulty now existing would be remedied.

Dr. Osmond spoke in favor of a combination of gold and vulcanite; but the chair reminded him that those materials were not under discussion.

Dr. Harroun took the negative of the subject. He did not think it could be practiced as a specialty. He could not see how a man could call himself a dentist without working, or being able to work at both branches equally well; as far as he was concerned, to work at both was a necessity, and he felt refreshed and renewed by changing off. He regarded the two as going together, just like medicine and surgery.

Dr. Eames took issue. He thought surgery and medicine were sufficiently distinct, at any rate not to be cited in the present case. He could not see how the mechanical branch could be presented as a specialty. Much more was required from students now than formerly, therefore they were better qualified for making a specialty of either branch. Surgery and medicine must be separate, just as much as surgery and making wooden legs; and he believed too, that eventually the branches would be separately practiced, and that dentistry would be advanced by it.

Dr. H. A. Smith held that it was the prime duty of the dentist to preserve the natural teeth. He thought the gentlemen forgot the tendency to cheap work. He believed the two branches should be separate; cheap dentistry had brought reproach upon the profession. There was no brains in it. Anybody could do it, or learn to do it in a short time, and be able to compete with the best cheap dentists in the market. An educated dentist don't care about it, for there is no interest in it for him. He thought therefore that they should recognize the signs of the times—division of labor—and give their time to the higher duties of the profession.

Dr. Horton believed that every dentist who is educated to practice on the face should understand mechanical dentistry. Sculptors only prepared the model, and then called in an assistant to chisel it in stone or marble. Every man who is a dentist should be able to model the work, and then call a skilled assistant to his aid, if he chooses, to work out the design. The Paris barber directs how the hair shall be dressed; his assistants do it. He employed two skilled assistants under this view, and could not get along without them.

The artistic idea is utterly disregarded in the steam dental establishments; no attention whatever is paid to the suitable-

ness of dentures to the face and voice. It was for such reasons then that he believed the branches should not be separated. There should be a thorough education for both, whether the dentist works in both or not.

Dr. Eames differed with this view. He did not think the artistic aided the dental surgeon at all; he believed the mechanical dentist should know how to do his work well.

Dr. Taylor repeated his opinion in favor of a division of the two branches, but was not prepared to say that the colleges should refuse to teach the one branch. He would not be willing to send a patient to a man who devotes his time exclusively to one branch, especially the artificial. It was his interest to pull teeth, in order to put in artificial sets, and this was really the only objection the speaker had to a division of the branches at this time.

Dr. McKellops was decidedly in favor of the separation. He thought the sooner it came the better. He did not regard the mechanical dentist as a maker of teeth merely. He must bring the teeth up to their natural position for utility and beauty. The mechanical dentist must know what is required in each particular case; he must be an artist, a man of brains and skill. If an operator can do all this too, well and good; but it seemed more likely to him that he would get things muddled up, and life was too short to be spent by one man in the useless effort to bring perfection out of both branches.

Dr. Frank A. Hunter would like to hear from the rubber workers present.

Dr. Jay said he worked in it altogether, and found it hard to get people to have anything better; whenever he proposed it, he found that they argued that as long as they could get a good enough set for twenty dollars, what was the use of paying more for any other material? He thought that people would have rubber work just as long as they can get it, and the thing would not be controlled.

Dr. Knapp thought among the causes operating against first-class mechanical dentistry was the greater attention paid to saving the natural teeth. His practice convinced him of this. He had whole families who would have nothing

but gold fillings, and they would have their teeth regularly attended to. He conceded that there was little demand for good work, and it remained with dentists themselves to educate the people up to the better standard; but the trouble was it would not put money in the pocket. The only way however was to change the current of public opinion on artificial dentures.

Dr. Hall thought the public sentiment here battled against, was created by dentists themselves.

Dr. Leman had no doubt that gentlemen talked one way in public, and acted another in their offices.

He found rubber the only thing suitable for a case of cleft palate. He had no trouble with it in his practice, and was not prepared to dispense with it.

Dr. McKellops speaking to the second part of the question said, that the only way to elevate the profession was to have only educated men in it, men skilled and educated. Next, to do no cheap work, and by and by the people would begin to compare the results of the two classes of work, namely the poor and cheap work, and the artistic and best, and then fall naturally in with the best, and would have no other.

Discussion closed on this subject.

Discussions before the Ohio State Dental Society, Dec. 5, 6, 7, 1872, on a Paper by Dr. D. C. Hawxhurst, of Michigan, on "The Effects of Fetid Breath upon the General System."

Dr. Rosson, being called upon, said he considered the subject treated of in the paper one of very great importance to the dental profession, but confessed that though he had given it some thought, he had not thoroughly investigated it, and could not explain intelligently what the gases of bad breath are, and how they are generated in the mouth, nor how they act upon the dentist in operating. All dentists know from experience how disagreeable it is to operate for a great many patients, that appear when they come to the office to be cleanly, and yet whose breath emits an odor or effluvia that is extremely disagreeable. He had no doubt the injury received from that source was very great. He related an instance in which a distinguished professor had become so well

convinced, that the gas, arising from the ignition of matches, was so injurious to him, resulting in breaking down his health, that he had matches manufactured for his own use free from sulphur. It was well known what a terrible thing blood poison was, and how hard to get rid of, and, as he understood it, these gases which act upon the system are carried through it by the action of the blood. He was glad the subject had been brought before them. He would go home and investigate this matter, as he did all the subjects discussed in their meetings, and learn all he could about it, and apply it to himself. If every member would pursue this course, he thought great benefit would be received from their discussions.

Dr. Harroun said he was greatly interested in the paper, and much pleased to know that it was to be published. A great deal of truth he believed had been brought to light in it. He thought it should set them to thinking how they might prevent the injurious effects of these gases, and prolong life by the proper care of themselves and their patients in this respect.

Dr. J. B. Beauman thought there was an important Scriptural quotation they might apply, "How shall we see clearly to pluck the mote of our brother's eye when there is a beam in our own eye." He had met dentists whose breath was as offensive to him as that of his patients. In looking at this question, he thought it would be well for them to sweep their own houses before complaining of their neighbor's houses. It behooved every dentist to look well to his own mouth before he says anything about the mouth of his patients. He feared most of them were careless in regard to the cleanliness of their mouths.

Dr. W. M. Herriott thought many dentists are too careless in regard to the condition and size of their operating rooms. Many throughout our State and the United States take great pains in fitting up their drawing room, so that it shall be a cheerful and inviting place, while they coop themselves up in a little room, some not more than eight by ten feet. That is their living room filled with foul breath, and then they re-breathe the matter thrown off from their own systems

and the systems of their patients. It is surprising that under such circumstances they have as good health as they do. Good light and good air are indispensable to the dentist in his operating room. His operating room was made the best room he had, being large, well ventilated, and furnished with good light.

Dr. C. M. Kelsey regarded the paper, read by the gentlemen from Michigan, as quite a valuable addition to dental literature. He considered it one of the best papers ever read before this society.

Dr. J. M. Porter thought there was one thing that many dentists were in the habit of doing when operating, that produced injurious results. That was opening the lips and keeping the mouth open while operating. This was to be considered an unfortunate habit anywhere, in doors or out. It was unnatural, and must produce abnormal results. Especially was it injurious when standing over a patient. If a man was fortunate in possessing a heavy moustache, and kept his mouth shut, he would prevent much of the evil effects that might otherwise result. If the mouth is kept open the operator must necessarily inhale everything that comes in contact with it. Nature has provided some means to shut off deleterious gases—through the nostrils is the natural way, and through the mouth the unnatural way.

Dr. J. Taft said there was more that might be said in that direction. The mouth when open not only inhales foreign substances, or materials that ought not to go to the lungs, and which would not go, to the same extent, at any rate, through the nostrils. The decomposition of foreign substances in the mouth is a very prolific source of obnoxious gases, and that decomposition is far more rapidly accomplished when the mouth is open. The mouth should always be kept closed, except for the reception of what goes into it. When the mouth is open there is a vitiation of its fluids injurious to the teeth and general system. The elaboration of agents that operate to produce decay of the teeth, is far more liable to be accomplished when the mouth is open, and thus the teeth suffer in consequence. Those persons—other things being equal—who are in the habit of keeping the mouth

open by day or night, will have the more rapid decay of the teeth. These are practical details that should claim the attention of every dentist, especially so far as his directions to mothers and children are concerned; we should give mothers a right view of these things, and use our influence to have their children contract correct habits in this respect. Very much would be attained in this way for the welfare of children in regard to their health, and the preservation of their teeth.

It is an interesting subject to consider this matter of the ability of the lungs, through their membraneous tissue to receive into and through them the agents that come in contact with them. My impression is that the paper presented last night put that matter pretty strong; not too strong, perhaps, but there are modifying circumstances, and we are not to infer or come to the conclusion that whatever comes in contact with the lungs will be greedily taken into them. My impression is that gases are constantly passing in both directions, in-coming and out-going. We do not take in these gases in a concentrated form, but they are largely diluted by the atmospheric nitrogen and oxygen taken in with them.

In one respect what the paper said is true, that is the facility with which the lungs will take into them, and transmit to the blood, foreign substances. This is very clearly set forth in the paper. But let us not conclude that everything that comes in contact with the lungs, either in the form of gases or fluids, will be taken into them. They have some ability to make a selection, not however to exclude all injurious agents, but they certainly will exclude some agents. There are some fluids which if inhaled, will make manifest impressions, and will not be received. Take, for instance, nitric oxide gas, which if taken into the lungs will produce spasms and a closing up of the lungs, so that they will not receive it. He did not know that a different idea was entertained by the writer of the paper, but some might have received such an idea.

In conclusion he remarked that the subject was a very interesting one indeed, and should be more thoroughly under-

stood by all members of the profession. It is a practical matter not only for the dentist, but for his patients. In all such things the knowledge of the dentist, however great it may be, can be, and should be exercised by him not only for his own benefit and protection, but for the benefit and protection of the patients committed to his care.

Dr. H. A. Smith regarded Dr. Taft's remarks as very pertinent to the subject. He desired, in speaking briefly upon the subject, to refer to one or two points brought forward by Dr. Porter. With regard to this matter of inhaling injurious gases during operations, he had thought sometimes some kind of a mechanical respirator might be invented, so that while breathing the air it might be strained. Dr. Taft had suggested that if the mouth were kept closed it would prevent the taking in of deleterious gases. Where he had a patient with an offensive breath he had been in the habit of pulling his moustache down over his mouth, and keeping the mouth closed in order to prevent the inhalation, or strain out the offensive materials, that are always more or less given off. Persons working amid the dust of metals wear a cotton web over the mouth to prevent the dust from being received into the lungs.

He did not concur with Dr. Taft in the opinion that the lungs have the power of selecting what is taken into them, except that deleterious substances sometimes, when taken in, will produce irritation.

He did not think the writer of the paper stated too strongly the cause of odors as from diseased teeth, etc; but we often find patients who have fetid breath which can not be traced to anything, or its source detected. The causes in some cases are very obscure, and one which he thought physicians knew but little about. He knew but little about this himself, but had thought much about it.

Carbolic acid administered in small doses would correct this matter to some extent. His attention had been called to that by a physician of Cincinnati. Dentists could, of course, distinguish whether this fetid breath proceeded from the teeth or respiratory organs.

He was glad this subject had been taken up, and treated so

well by Dr. Hawxhurst. The paper evinced considerable research and labor. We needed more literature on the subject.

Dr. Hawxhurst said that a knowledge of this subject is likely to be very useful to the practitioner. The question, how to keep the air which passes to the lungs pure and wholesome, is one of vital importance. Out of doors the air is generally pure; and yet in going along the streets we often come in contact with foul air, and unpleasant odors; but we have little control over the out-door air. How to keep the air of our rooms from being impure and disease-producing is a more important and practical inquiry. What gases are liable to vitiate the air of our rooms? Our carpets may become saturated with gas that will be driven off by heating the rooms, and will be injurious; the varnish on the furniture gives off gas, and wall-paper, when the room is warmed, gives off gas. He had seen an account of two instances last winter, in which disease had been produced by the gas arising from drugs used in coloring the paper of a room.

Again there are gases arising from the drugs used in dental offices, from the cloths that cover stands, and from the upholstering of chairs and sofas, from the drawers of cabinet cases, and the meshes of all bodies loose in texture; a great deal of deleterious gas is discharged when there is an unusually warm fire, heating up the contents of the room; so that the sources of impure and injurious gases are very numerous. Sometimes the skin itself gives off gas; sometimes the hands of the dentist throw out such an unpleasant odor as to be annoying to the patients.

From the lungs come some unpleasant odors, and volatile principles, that it is not always easy to account for. He had been told that their origin is very obscure, and that it is useless to spend time in research on this point. True, the nature and sources of these seem to be hidden, but he thought they might be ferreted out. The subject was one of very great interest, and requires much investigation. If we understood the physiological mutations of matter in the system, as we might, and the laws of experimental logic, we would be able by experimental tests to discover the causes of bad breath as

exhaled from the lungs. Except in cases of local disease of the organs themselves, those fetid odors that come from the lungs as a part of the expired air, must have made their way through the lung tissues directly from the blood. How do they get into the blood? The matter from which they arise is ingested with the food, or as a part of it, or it may be results in part from the degeneration of alimentary substances during an ill-performed digestion; foreign and injurious compounds may be thus developed in the body—compounds which, going the rounds of the circulation, will volatilize in the lungs, and spoil the breath. Or, the vitiating odor may be derived from destructive assimilation, and may represent the effete and worn-out atoms of the system, the waste matter and debris of the animal organism, which have not been eliminated from the system by a sufficient activity of the excretory organs.

Whatever we eat goes through the digestive process perfectly or imperfectly, and finally passes into the blood, and arrives at the lungs. So, if you eat turnips or celery, the blood very soon contains the essential oils of these vegetables. If we eat onions we find the blood, perhaps, in half an hour, has given the odor of this food into the lungs and into the breath. Alcohol will thus make its way to the lungs in about three minutes; it simply takes this route of exit from the body, and on the way spoils the breath. Almost all the essential oils which are taken into the stomach as a part of food are thrown off from the blood in a volatile state, and pass through the lungs into the breath.

In general, deleterious gases will be thrown out from the lungs whenever one or more of the excretory organs is inactive. So if the kidneys are not sufficiently active, matter which should be pumped off by them may pass off through all the other emunctories, but, so far as they are volatile, through the lungs. In cases of inactivity of the colon there may be left volatile animal matter in the blood, which ought to have been drawn off through that passage. If so, it will be eliminated in some direction, and very likely through the air passages. In crowded, ill-ventilated habitations, more or less, morbid matter may be taken up by the absorbents of

the skin, thrown upon the blood, and afterwards, perhaps, carried to the lungs for elimination.

Another matter that is full of interest in connection with this subject relates to bad breath from suppressed menses. The menstrual fluids contain many volatile matters that saturate the blood when retarded or suppressed, and find their way out through the lungs. He had observed frequently a very peculiar and unpleasant odor in the breath of women, and had discovered in the case of two girls, who exhibited the same qualities of breath, that the menstrual flow was entirely suppressed. On talking with Dr. Robbins, of Meadville, he had obtained other instances of the same kind. During his investigations of this subject, he had observed so many instances in which the suppression of the menstrual discharge was accompanied by this peculiar fetor of the breath, that he had lately set it down as one of the causes of bad breath. It seems that this matter, which should be drawn off from the blood monthly by way of the uterus, if retained in the system, may be vicariously discharged through the pulmonary surfaces.

Dr. Rehwinkel asked Dr. Hawxhurst, if he had ever observed any particular conditions of the breath accompanying symptoms of insanity.

Dr. Hawxhurst replied that he had not thought much about that. Wherever insanity occurs there is generally some obstruction of the physical functions. We all of course recognize that the mind is dependent upon the body, and that mental action is modified by physical conditions. May it not be that the different kinds of tissue-changes, that go forward during insanity, bring about a different composition of the blood, and that thus unusual and abnormal compounds or substances are presented for elimination at the lungs.

In general, when physiological action is normal, there is nothing in the system that will produce bad breath. The carbon and hydrogen when oxidised are inodorous. The essential oils, and all impurities, when sufficiently burned down by oxygen, are inodorous. But when these are excessive in quantity or peculiar in nature, as they might be in insanity, this oxidation may not be complete.

•

Dr. Rehwinkle remarked that though he was entirely unable to throw any light upon the subject, yet it was a fact, that in marked cases of insanity, bad breath was perhaps one of the most common and peculiar features. It had always been an interesting subject to him, but he could never satisfy his mind why this should be. He had never been able to decide that it is in consequence of the dependence of the mind upon the physical structure, because in many instances the functions would all seem to perform their work with great regularity; the digestive organs, etc., all in excellent condition, so that it seemed there was nothing in the physical condition of the person concerned, to justify you in supposing that the fetor of the breath arose from any cause in operation here.

In regard to bad breath in females, occurring in consequence of the suppression of the menses, he had made no observations. It was entirely a new idea to him, and had never presented itself to his mind in this shape before. It was however, he thought, a matter full of interest.

Dr. H. A. Smith had observed that at that period in females, termed the change in life, when the menses are suppressed by the order of nature, their breath is especially offensive. He had had opportunities to observe this in several instances. After this period had passed, and the system had conformed to nature's demand, this offensive breath passed away.

Toothache—Systemic Treatment.

Dr. A. L. Cory, (*Chicago Med. Times*,) "reports a new remedy for toothache. Being called upon immediately after the fire, to extract some aching teeth, and not having the necessary implements, and most of the dentists having lost their instruments, he prescribed 50 grains of hydrate chloral, to lessen the pain and produce rest until he could obtain the necessary forceps. To his astonishment, in every case, the ache not only promptly vanished, but failed to return. The Doctor says he has now tried this plan in about twenty cases with quite uniform success."

Various anodynes will answer the same purpose. Among others, ionoform in one grain doses is a very efficient remedy for dental and facial neuralgia.—*Medical Cosmos*.

EDITORIAL.

A Diseased Mouth A Source of General Disease.

It is an established medical observation that diseases of the mouth and associate parts often arouse severe and protracted morbid action in other parts of the body. That organs which have important physiological sympathies with the whole nutritive, and a large portion of the nervous system, should, through this close relationship, and when very much diseased, excite morbid action in other parts, is what we might expect. This is the case in many instances of only moderate disease, but it must be especially so in cases of extensive breaking up of the dental arch, where not only are the gums tumid with putrid blood and pus, the sockets and periosteum involved, but the maxillary bones and the sinuses are encroached upon by disease, and the whole track of the fifth pair of nerves is the seat of severe functional derangement. The powerful morbid influence which such a state of things must exert on the general constitution is not likely to be fully appreciated until the subject is carefully considered.

The journals occasionally, and the practitioner's note-book constantly, contain cases in which violent neuralgic affections of the face, great nervous depression, loss of digestion, and general prostration, one or the other, or all of these conditions, have attended diseased states of the teeth and contiguous parts.

The neuralgia is accounted for by the existence of numerous lesions in the filaments of the trifacial nerve; and in this alone we have a source of great constitutional disturbance through the ineffectual efforts of nature to repair the injuries under which she suffers. A drain upon the system, so heavy and so perpetual, must impair the nervous supplies which go to other organs. And here we have the foundation of gastric derangements, biliary disorders, and constipation, which in their turn must undermine and break up the vigor of all the functions, and the healthy activity of the whole organism.

And this state of things will be aggravated by morbid compounds of vitiated secretions, which, along with drippings of blood which has stagnated in the gums, will be carried into the stomach to impair its digestive fluids, and along with unchewed aliments, derange the action of the organ.

The little attention given to these general morbid effects, arising from diseased conditions of the mouth and associate parts, may be due to a disposition on the part of practitioners to look for more profound causes of disease. The note book of the dental practitioner is replete with cases that might be cited in illustration.

Professional Literature.

In looking over the past and present of dentistry, it is easy to see why we still lack able works on several important special subjects: there has not been time for their production.

It is only during recent years that we have become awakened to the breadth and complexity of the problems that present themselves to the dentist for solution; it is only recently that we have realized the difficulties that must be encountered in solving these problems.

Inquiries relating to the morphology, physiology, and pathology of dentine, its molecular defects, its modifications in disease, and under different remedial influences; the questions of form, development, and life-endowment, that arise from the study of both dentine and enamel; many chemico-vital problems, involving study in dietetics, and the wonderful influences that are impressed upon the delicate dental germs during gestation, are some of the unworked, or but partially wrought territories of dental investigation. In these and other unnamed subjects of inquiry, are mines of rich materials for the man of science; and many an unclaimed, though fertile spot, on which the accurate observer and close thinker may plant himself, with test-tube and microscope, to make for himself a secure place in the history of this new specialty of medicine.

Many subjects have yet to be made clear: the influence of diet on the teeth; the facts of histology; the laws of restoring lost features; the assimilation of the phosphates, and a multitude of topics in dental medicine.

We have as yet no work on diagnosis, none adequate on dental therapeutics, and a number of special departments in dental pathology already await their accurate observer and recorder.

A New Dental Journal and a Dental College in Spain.

Just before going to press we have received a new dental journal from Madrid. It is edited by Dr. Cayetano Trivano, a member of the Academy of Surgeons, and author of a work on Dental Surgery, and is called the *Revisita Odontalgica*. It is well printed, and contains the usual articles and discussions on anæsthetics, extraction, dental charlatanism, etc., such as fill our own journals.

A Spanish dental college has been established, or is being established by a society of surgeons, with Dr. Louis Portella at its head, who is also President of the Academy of Medicine and Surgery in Madrid. This dental Faculty is to be instituted somewhat on the American plan, but will be more regulated by the government.

Reorganization of the Cincinnati Dental Association.

The following is a synopsis of the proceedings at a meeting of dentists, held March 24th, 1873, at Dr. J. Taft's office, for the purpose of reorganizing the Cincinnati Dental Association. There were present, Drs. Berry, Goe, Hawxhurst, Meredith, Roudebush, H. A. Smith, H. R. Smith, Taft, Taylor and Wheeler.

Dr. Roudebush was appointed President, pro tem., and Dr. Meredith, Secretary, pro tem. Dr. Taft read the old constitution of Jan. 6th, 1844. Meetings were held regularly under this for one year, then discontinued.

He read another constitution of 1848, and stated that it was probably the old one revived. Meetings were held under it for several years.

Dr. Smith read minutes of two meetings held in 1865 and 1867.

Dr. Taft moved that the last constitution should be the one adopted for present government. Carried.

It was moved and carried that old members practicing in the city should still be regarded as members.

Dr. Hawxhurst, Goe, and Meredith were nominated for membership, and elected.

The Association then proceeded to the election of permanent officers, for six months from date. The result was as follows:

Drs. H. E. Smith, President; B. D. Wheeler, Vice President; D. C. Hawxhurst, Secretary; H. A. Smith, Corresponding Secretary; A. Berry, Treasurer.

Drs. F. Hunter, L. P. Meredith, and H. A. Smith, were elected an Executive Committee.

Drs. Meredith and Hawxhurst, were selected to read papers at the meetings of March 31, and four weeks from that date, respectively.

L. P. MEREDETH, Secretary.

The Vulcanite Question.

Frequent inquiries are made in reference to the present status of the claims of the Dental Vulcanite Company. Many have an impression, since the recent action of the Supreme Court at Washington, that the Cummings patent is void.

The recent action of the Supreme Court was upon the affidavits of S. S. White and others, bringing out facts that had not before been presented fully, for the purpose of considering the dismissal of the appeal.

We give below the motion for dismissal, also the opinion of the Court reversing the former judgment.

This opinion is based upon the evidence of collusion, between the Dental Vulcanite Company and those conducting the defense, which

is most damaging to both parties, and presents Mr. Bacon & Co. in a worse light, if possible, than before.

In all this, however, the validity of the Cummings patent is not invalidated, nor materially affected, except so far as such conduct on the part of the Dental Vulcanite Company is a remarkable admission of the inherent weakness of that patent. We do not believe there is a man living, who is at all familiar with the history of the matter, who does not regard it as a fraud throughout. And Mr. Bacon is afraid to trust the result of a fair trial of the cause upon its merits, and the testimony that may even now be had. We take the following from advance sheets of the *Dental Cosmos*:

UNITED STATES SUPREME COURT.

No. 133. December Term, 1871.

BENONI E. GARDNER, <i>Appellant</i> , <i>vs.</i> THE GOODYEAR DENTAL VULCANITE COMPANY AND JOSIAH BACON.	}	<i>Motion to dismiss appeal.</i>
---	---	----------------------------------

And now this twenty-ninth day of October, A. D. 1872, come before the court, Jeremiah S. Black and Henry Baldwin, Jr., on behalf of Samuel S. White, of Philadelphia, Pennsylvania, and of many others, dentists, all citizens of the United States, and move the court to dismiss this appeal.

And in support of this motion they produce in court the affidavits of Benoni E. Gardner, this appellant, John B. Newbrough, Henry E. Fickett, Henry Coy, and Samuel S. White; and thereupon show the following facts:

1st. That there was no dispute between the plaintiffs and the defendant in the court below at the time the final decree was there made.

2d. That there was no dispute between the appellant and the appellees in this court at the time this appeal was taken, nor when it was argued.

3d. That the decree for damages and costs against the defendant in the court below was not, and is not intended to be enforced, but that this appellant was and is protected against the same by agreements made in that behalf by the appellees before said decree was taken.

4th. That the injunction granted by the court below in its final decree was not and is not intended to be enforced, but that the appellant was protected against the same by a license granted in that behalf by the appellees before said decree was taken.

5th. That the appellant is not even liable to costs in this court, but that the same have been or are to be paid by the appellees.

6th. That the appellant here has no interest whatever in the questions involved in this appeal, nor in their determination; but that the appellees herein are attempting to procure the opinion of this court upon questions of law, in the decision of which their interest is opposed to that of other persons who are not parties to this suit, who had no knowledge of it while it was pending in the Circuit Court, and no opportunity of being heard in defense of their rights.

7th. That this cause was argued in the court below, and in this court, without there being any interest adverse to that of the appellees represented therein, and without there being even a colorable dispute, to obtain an opinion of this court, which the appellees desire to have in their own interest, and for their own purposes, when there is no real and substantial controversy between them and the appellant, and no conflict between their interests; all the interest involved herein pertaining to the appellees, and that interest adverse to, and in conflict with the interest of third parties, whose rights would be seriously impaired if the question of law herein are decided in the manner in which these appellees have sought, and are seeking to have them adjudicated upon this appeal.

8th. That the Goodyear Dental Vulcanite Company became and was in the court below, and has been, and is in this court, the sole party in interest in this cause, and as such *dominus litis* on both sides thereof.

9th. That while the cause was pending in the court below the appellees became the legal and equitable owners of all and any opposing interest at any time involved therein; employed and paid counsel on both sides, and made up a record therein to suit themselves; in order to obtain an opinion of this court that should conclude the rights and interests of persons not parties to the pretended controversy.

Upon the facts above stated, the counsel named, on behalf of their clients aforesaid, move the court to strike out the judgment or decree heretofore made in the said cause, and to quash the appeal taken therein, direct the Circuit Court to dismiss the plaintiff's bill, and take such measures in the premises as justice and right may seem to require.

J. S. BLACK,

HENRY BALDWIN, JR.

Indorsed: Supreme Court U. S., 1871, Dec. Term, No. 133. Gardner, app't vs. Dental Vulcanite Company. Motion to set aside decree and dismiss appeal. Filed 29th October, 1872.

True copy.

[SEAL.] TEST.: D. W. MIDDLETON,
Clerk Supreme Court U. S.

[This decision was rendered Monday, March 3. 1873.]

SUPREME COURT OF THE UNITED STATES.

No. 133 December Term, 1871.

BENONI E. GARDNER, <i>Appellant</i> ,	}	<i>Appeal from the Circuit Court of the United States for the district of Rhode Island.</i>
<i>vs.</i>		
THE GOODYEAR DENTAL VULCANITE COMPANY, <i>et al.</i>		

On Motion.

Mr. Chief Justice Chase delivered the opinion of the court.

The original suit in equity was brought by the Goodyear Dental Vulcanite Company against Gardner to enjoin him from the use of certain patented subjects belonging, as alleged, to the Company, and for an account. The case was heard upon a bill, answer, and testimony, and there was a decree in favor of the Company in the Circuit Court for the District of Rhode Island, in September, 1870. Upon appeal to this court the decree below was affirmed on the 6th of May, 1872, but the opinion has not been read. The defense was conducted by counsel originally employed and paid by Newbrough, under whom Gardner was licensee. On the first of July, 1869, before the decree in the Circuit Court, Newbrough and the Company compromised all matters of difference between them, with the understanding that this suit should go on to the final hearing and determination both in the Circuit Court and in this court on appeal, as if the compromise had not been made.

The Company, however, paid the counsel employed for the defense as well as for themselves in Circuit Court, and subsequently in this court. These facts appear from the record and from the admissions of the Company in the ninth article of their answer to the motion to dismiss the appeal. They are the only facts which we think it necessary to notice.

It may be that the Company has not become the legal or equitable owners of the opposing interests involved in the suit. There may be, and doubtless are, large opposing interests of which they are neither the legal nor equitable owners. But it can not be admitted that one party to a suit can pay the fees of counsel on both sides, both in the court below and on appeal, without being held to have such control over both the preparation and argument of the cause as to make the suit merely collusive in both courts. It can make no difference that the counsel fees were charged to the party apparently, though not really liable to pay them, and payment from the other party procured him. This, indeed, is a circumstance against the party who pays the fees rather than in his favor.

The motion to vacate the decree of affirmance heretofore made, and to dismiss the appeal, must, therefore, be granted, and an order

made to recall the mandate which has been issued to the Circuit Court. We take occasion, however, to say that we see nothing in the conduct of the counsel who actually represented the Company which merits blame, or which ought to effect in any degree the high esteem in which they have been held. Neither of them appears to have had any knowledge of any arrangements made by their client with the opposing party.

True copy.

[SEAL.]

Test: D. W. MIDDLETON,

Clerk Supreme Court U. S.

[That there may be no question as to the scope and effect of the foregoing decision, we have procured and appended a copy of the mandate which *had been issued* to the Circuit Court, and which is *recalled* and *annulled* by the decree on the motion to dismiss the appeal.]

UNITED STATES OF AMERICA, ss.

THE PRESIDENT OF THE UNITED STATES OF AMERICA,

*To the Honorable the Judges of the Circuit Court of the United States
for the District of Rhode Island, Greeting:*

Whereas, lately, in the Circuit Court of the United States for the District of Rhode Island, before you, or some of you, in a cause between the Go dyear Dental Vulcanite Company and Josiah Bacon, complainants, and Benoni E. Gardner, respondent, wherein the decree of the said Circuit Court entered in said cause on the 8th day of September, A. D. 1870, is in the following words, viz:

“Upon the coming in of the master’s report, and on motion of the complainant’s counsel, it is ordered and decreed by the Court that the said report be confirmed and established, and that the said defendant, Benoni E. Gardner, and his agents and servants, be perpetually enjoined from making, using, or vending to others to be used, any one or more dentures or plates for artificial teeth manufactured according to the process described in the reissue patent, in said bill of complaint mentioned.

“And the Court doth further order and decree that the said defendant do forthwith pay unto the complainants the sum of seventy-five dollars, being the amount of profit found by the said master’s report to have been received by the said defendant, Gardner, from the manufacture and sale of plates for artificial teeth manufactured according to the process described in the said reissue patent, in violation of the exclusive right of the complainants.

“And the Court doth further order and decree that the said defendant, Gardner, do pay to the said complainants the cost of this suit, taxed at two hundred and forty-eight dollars and eighty-four

cents (\$248.84), entered as a decree of this Court, per order thereof, of this day, September 8th A. D. 1870."

As by the inspection of the transcript of the record of the said Circuit Court, which was brought into the Supreme Court of the United States by virtue of an appeal, agreeably to the act of Congress, in such case made and provided, fully and at large appears.

And Whereas, in the present term of December, in the year of our Lord one thousand eight hundred and seventy-one, the said cause came on to be heard before the said Supreme Court, on the said transcript of the record, and was argued by counsel: On consideration whereof, it is now here ordered, adjudged, and decreed by this Court that the decree of the said Circuit Court in this cause be and the same is hereby affirmed, with costs and interest until paid, at the same rate per annum that similar decrees bear in the courts of the State of Rhode Island, and that the said complainants recover against the said respondent, Benoni E. Gardner, three hundred and ninety-nine dollars and nineteen cents for their costs herein expended, and have execution therefor. 6th May, 1873.

You, therefore, are hereby commanded that such execution and proceedings be had in said cause, as according to right and justice, and the laws of the United States, ought to be had, the said appeal notwithstanding.

Witness the Honorable Salmon P. Chase, Chief Justice of said Supreme Court, the first Monday of December, in the year of our Lord one thousand eight hundred and seventy-one.

Cost of Complainants:

Clerk	\$379.16
Attorney . . .	20.00
	\$399.19

Taxed by D. W. MIDDLETON,
C. S. C. U. S.

SUPREME COURT U. S. DECEMBER TERM, 1871.

Costs of the Goodyear Dental Vulcanite Company *et al.*, in No 133, 1870:

\$379.19; Fee book L; pa. 378; Test.: D. W. MIDDLETON,
C. S. C. U. S.

1872, May 14. Received payment, per A POLLOK. Esq.

D. W. MIDDLETON,
C. S. C. U. S.

The Ninth Annual Meeting of the Illinois State Dental Society will be held at Rock Island Ill., beginning on Tuesday, the thirteenth day of May, 1872.

Discussions will be held conjointly with the Iowa State Dental Society, and a very profitable and largely attended meeting is anticipated.

All are cordially invited to attend.

CHARLES R. E. KOCK, Sec'y.

One-Eighth Objective.

At a recent meeting of the Quickett Microscopical Club, of University College, Mr. Thomas Powell exhibited an one-eightieth objective, made by himself. At a public meeting, with the time for examination limited, no decisive tests could be made, but so far as could be seen it performed well. It defined the podura scale well, without color or aberation of light. It magnified about 4,000 diameters with the A eye-piece.

The Rubber Committee.

The Committee appointed by the Ohio State Dental Society, to look to the interests of the profession of the State in matters at issue with the Dental Vulcanite Company, held a meeting in this city on the 15th inst. In view of the fact that Mr. S. S. White has consented to take the entire management of the defense as far as possible, the courts have decided to issue in a few days an appeal to the dentists of Ohio, asking them to contribute in aid of the expenses which will necessarily be incurred in any other further litigation with this Company. Mr. White having given his time, and expended about five thousand dollars to obtain a favorable verdict in the Gardner appeal case, thus giving the profession an opportunity to again assert their rights, it is but just to him that the dental profession respond promptly and liberally to this call for pecuniary aid.

It is the purpose of the court, we learn, to recommend the organization in every city and county of the State of the dentists, so that there can be concert of action, and no time lost in assuming the defensive.

THE
DENTAL REGISTER.

VOL. XXVII.]

MAY, 1873.

[No. 5.]

LIME SALTS NECESSARY TO CHILDREN.

BY D. C. HAWXHURST.

There are few respectable practitioners of dentistry at the present time, who do not know the important relation which exists between the mineral salts of food, and the proper organization and development of the teeth of children: Much attention has been given, and much more must in the future be given to this subject. Through all our recent literature are scattered articles on the "Lime Salts," "The Phosphates," "Early Development of Teeth Dependent upon a Supply of their Mineral Constituents," "Calcification of Growing Teeth," etc.

The principle which runs throughout all this writing, and constantly glows and brightens as it is the more examined, is that *one of the fundamental conditions of normal organization of developing teeth, is a liberal supply of mineral salts.*

As in raising wheat and barley we must supply to the soil, if it lacks them, those mineral substances which help to make up the substance of these grains; so in watching over the development of children's teeth we must make ourselves certain beyond a doubt that the blood furnished them contains

not alone the elements but the proximate elements necessary to the up-building of normal tooth-structure.

There is no appeal; these elements must be supplied to the teeth. Otherwise the minute constitution of their tissues will be defective, and serious forms of dental disease are likely to result. The attempt to keep bees on a sandy plain where there are no flowers, or an effort to draw profit from a poultry yard without supplying lime salts for the egg-shells, could not result in more utter failure, than the equally absurd and impossible enterprise of furnishing a child with dense and perfect teeth without giving it proper foods.

Parents may as well recognise first as last that every growing child must be supplied in its daily food with the mineral salts that are to form the basis of its teeth. Those who have children in charge should understand that if this supply is not made these organs will contain defects of structure that must encourage early decay; that they will in short be made up of molecules, every one of which is impotent to resist the action of even comparatively mild morbid agents.

In the food of most children, whose parents have not given special attention to the subject, there is but a scanty supply of the mineral constituents of tooth and bone; this is no fault of nature herself. The raw material before it is fitted by art for its place on our tables, contains all the elements required in the nourishment of the teeth.

This is true of wheat, which in this country is one of our principal sources of mineral food. Ground whole and unbolted it makes a wholesome, nutritious bread, rich in those mineral salts which are necessary to give density to the teeth. Furnished with an abundance of such bread, the blood of the growing child, whose digestive organs are healthy, can not fail to be well supplied with the mineral constituents of teeth; and unless there were some powerful causes acting to oppose assimilation, the dental tissues under such circumstances must be well calcified.

But when flour is bolted, it is largely deprived of its mineral salts. They have adhered to the gluten nearest the bran or husk, and have passed into the bran bins of the mill. When it is remembered that in this country, wheat bread is our

standard source of phosphatic salts, and our mode of preparing it is such as to rob it of much of these salts, we can no longer remain blind to the cause which is producing so many poorly organized teeth.

But scantily furnished with lime salts throughout the whole period of their growth and formation, they present the gravest defects of structure. Even to the unaided senses, and without the application of any more delicate tests, they appear to be lacking in density and tenacity of substance. They cut easily under the excavator or drill, and their tissues compare with those of well-organized teeth, as the wood of pine compares with that of seasoned hickory.

On making sections the pulps are found to be large, the apical foramina expanded, and the roots soft.

Under microscopic examination the tubuli of the dentine are large. Under chemical examination the relative proportion of mineral matter is small. Not enough of the phosphatic salts have been infiltrated into the organic matrices. The whole structure of the tooth by its softness, by the animal nature of its tissues, by the state of development in pulp, foramina and tubuli, gives evidence of insufficient calcification. And this has no doubt resulted from a scanty supply of mineral salts in the food, while the organ was undergoing the process of development.

That such teeth should decay is not a matter of surprise. Their delicate structures waste away visibly from month to month under the influence of oxygen and the disintegrating forces at work in the mouth. The deciduous teeth suffer extensive injury soon after their eruption; and the first permanent molars, in many cases, scarcely burst the gum, and make their way into the open cavity of the mouth before decaying cavities burrow into their substance. These results are entirely unnatural, and though hastened by neglect, and aggravated by the reckless use of improper aliments, are at bottom due to the defects and imperfections of the decaying tissues.

Here then is one important fact in the solution of the problem of *caries*. We must secure greater *integrity of structure* in the decaying tissue. And among other conditions tending

to this end, will be found the furnishing of the patient from the earliest period of his existence, with nutritive supplies that are rich in the mineral constituents of teeth. This will be done at first through the mother, and at a later period by direct feeding.

The phosphatic salts are abundant in several common articles of diet. Wheat, barley, beefsteak and fish, may be relied upon if their chemical composition is not interfered with during preparation for the table. Oatmeal, Southern corn, oysters, peas, beans, and milk, are all rich in phosphatic salts. They should be liberally supplied to the mother during gestation and lactation, and to the child during infancy and youth.

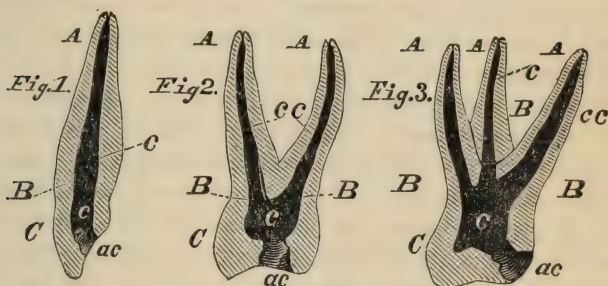
There are a multitude of questions connected with this subject which I have made no attempt to answer. Some of these relate to the non-assimilation of the salts of food during anæmia; the necessity for a more liberal supply during gestation and lactation than is easily obtained from common foods; the best treatment of plants designed for food, to increase the amount of mineral salts which they contain; how to induce the stomach to extract the greatest amount from foods; how to render artificial preparations of the mineral salts digestible; under what circumstances will they be useful to the patient. These are some of the questions which ought to be answered by those who know.

APEX FILLING.

The substance of two lectures delivered from the chair of Operative Dentistry, in the Ohio College of Dental Surgery, at the request of Prof. J. Taft, by W. Storer How, D. D S., Dec. 4th and 6th, 1872.

Every human tooth has within it one or more cavities normally filled with its pulps; and these cavities have a like configuration with the teeth; so that, represented by solid bodies, the cavities would appear as smaller teeth. The teeth themselves are difficult of exact description, because in situation, the top of a lower tooth corresponds to the bottom of an upper tooth; but as it is desirable that general terms should be

employed in their descriptions, for the purposes of this lecture each tooth will be considered as "superior" in situation, and resting on its "crown" as a base, and to avoid confusion, the ordinary terms will be used when applicable; it is however necessary for the proper understanding of the following methods and operations that the mind should always have before it the vertical position of the tooth as it rests upon its base. To this end simple outlines of the single, double, and triple rooted tooth, are now given, and are to be constantly borne in mind.



The usual anatomical description is "crown, neck, root, and pulp cavity." A glance at Fig. 1 will show that the form of its root is conical, having a base B. and an apex A; (for various reasons I have chosen *apex* rather than vertex or any other term;) it will also be seen that the roots of Figs. 2 and 3 may likewise be viewed as cones, with their bases at the necks of the teeth. As dentists we have at this time practically to do with the cavities rather than the roots, and I shall therefore further apply, and define the following terms:

Apex—The superior aperture of the cone cavity in each root.

Base—The inferior aperture of the cone cavity in each root.

Cone-cavity—The cone-shaped cavity in every root from *apex* to *base*.

Dental Cavity—The cavity within the crown of the tooth.

Accidental Cavity—Any other cavity in the crown or neck of the tooth, whether pathologically or artificially formed.

Our present purpose concerns the *accidental cavities* only,

as a means of reaching the *cone cavities*, in order to fill them to their apices after the appropriate previous conditions shall have been fulfilled.

The treatment of alveolar abscess, the extirpation of the dental pulp, and the operation of "fang-filling," have occupied a prominent place in the practice, and in the writings of our profession, but as more than a general review of them does not come within the limits of this lecture, only incidental allusions can be made, to show what seem to have been errors or mistakes in theory and practice on the points named.

Alveolar abscess, or one variety of chronic odontalgia, resulting from the decomposition of the pulp, has been variously and remarkably treated; the primitive way being to extract the tooth; another, lately revived, was the removal of the tooth, excision of the sac, and replacement of the tooth; one way was to fill the dental and accidental cavities, and then drill through the root to the cone-cavity at its base, and thus drain off the pus as fast as formed in the sac: risodontripy, so-called, was a casual result of this sewerage operation.

Extirpation of the pulps by direct excision, by the actual cautery, and by removal after obtunding its sensibility, have, with other similar means, been employed for the relief of acute odontalgia; and the common practice has been to fill the dental and accidental cavities, and after a year or more, relieve the inevitable chronic odontalgia by the previously described sewer opening or drain. Further attempts have been made to diminish the area of the concavities, and so to postpone the impending abscess for a longer time than usual by cone-shaped wires, or pieces of wood forced in and cut off at the bases; pledgets of cotton saturated with creosote, or iodine, have been packed in as far up as they could be carried with imperfect instruments; and foil wrapped on broaches has been carried into the cone-cavities, the broaches withdrawn, and repeatedly pushed back, with the effect of partially filling them for a short distance from their bases; the plastic compounds have also been used with like effects.

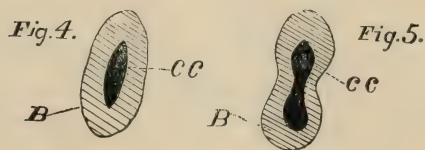
All these later methods, and the others not just now recalled, have this common and radical defect in *attempting only to reduce this capacity of the concavities to contain decomposed*

matter: the sewerage system being considered as only an expedient, and a base one at that. Indeed, the whole history of "fang filling," as hitherto written, shows that experiment in the line of expedients, without due process of reflection, has been the cause which has led to the several inefficient and indefensible operations of the present day; and that this statement is not too strong, will appear in the light of the theory and practice herein set forth, and descriptively termed *apex filling*.

Briefly stated, alveolar abscess is caused by decomposed matter within the cone-cavity, acting by a sort of distillation through the foramen at the apex, as an irritant to the investing tissues; therefore the reasonable process of treatment would be to remove the exciting cause, dry up the abscess through its natural sinus, the foramen, and then close that aperture by filling *first* the *apex* of the cone-cavity, then, if the investing tissues have been restored to their normal condition, there can be no recurrence of the abscess, because the *door is shut* by which the poisonous emanations found entrance into the healthy surrounding parts; and though the concavity should become a very pit of abominations, there could be no pernicious influence ever again exerted through that gate.

Having in the previous lecture determined what is necessary, and best to be done, let us now consider *how to do it*.

It was shown that a root divided in the plane of its axis, exhibited a hollow, which from its shape was termed a *cone-*



cavity; this description though not geometrically exact, is yet sufficiently so for the practical purposes in view, and is therefore not to be disturbed when the cross-section of a root shows the cone-cavity as an elipsoidal figure in either

simple or complex form ; an illustration of the former being seen in Fig. 4, and of the latter in Fig. 5, which are respectively basic cross-sections of a cuspid, and a bicuspid root.

These two figures are types of all the cone-cavities at their bases, but the apices are always similar to Fig. 4 diminished in size; whether as in some bicuspids there is an attempt at two roots, or whether as in the lower molars two cone-cavities blend in a common apex.

It is of great importance that the shape of these cross-sections be carefully observed, as they have not been by those who have tried to fill them, by driving in and leaving those *round* tapering wires, though some operators taking the hint from the nerve instruments furnished by dental dealers, have endeavored to give their wires a shape proximating that of the cone-cavities to be filled; yet with the radical defect of both theory and practice, demonstrated in the previous lecture, namely, a reduction, and *only* a reduction of the mischievous capacity of the cone-cavity.

We have now reached several conclusions, which are of prime importance in relation to the subject under consideration, and they will be restated here, to bring them clearly before the mind in view of what is to follow.

First—The entire pulp is supposed to be removed, or the abscess to be completely cured, and the cone-cavity prepared for filling.

Second—The filling is to be *begun at the apex*.

It is obvious that the shape of the pluggers must conform to the shape of the cone-cavities, which we have seen to be conical, and ovoid, and which it is now to be said are generally of such small caliber, that a round wire can hardly be made to reach the apices. In the drawings the cone-cavities have been necessarily shown magnified several diameters, and now that it is desirable to give drawings of the pluggers, they too must be magnified, and as I turn to S. S. White's catalogue, to see what may be done by the engraver, I find on page 72, illustrations of "Dr. Hunter's pluggers," and on the opposite page, "Dr. Arrington's pluggers," which, while drawn to actual sizes, are really from three to four diameters too thick through the short axis of the cross-sections. I may

well be pardoned a digression just here to say, that previous to the war I was associated with Dr. W. M. Hunter, and showed him this method of apex filling; and when after the war I came back to practice, I found these pluggers having a flattened oval cross-section, and of very coarse sizes for sale in the depots, as "Dr. Hunter's pluggers;" I was afterwards told that Mr. S. S. White saw them in his office, carried them off, and made them under the above title, without any word from him, Dr. Hunter, other than his permission to take them, and do what he pleased with them. I received them from my preceptor, Dr. Benjamin Lord, of New York, twenty years ago; and to him, so far as known to me, is due credit for the original idea of apex filling, for the proper form of pluggers, for the method of conducting the operation, and for the barbed nerve-extractors, described on page 73 of the catalogue. For the extraction of nerves, I learned from Dr. Hunter, the use of a very fine five-sided broaches, annealed and hooked at the end, by passing across it a coarse file, and then the rotating of the broach in the cone-cavity cuts off, and removes the pulp.

It has been my part to carry the construction of the pluggers to a very fine point, by taking coarse annealed broaches, made up of the finest steel, filing them to a tapering square, then to a thin, flattened square, or parallelogram, then rounding the edges to a flattened oval, and finishing smooth with an old flat file. The broaches are then set in a steel socket, with soft solder, or tin, and are ready for use. Careful hammer-hardening improves them, but only the coarser ones will bear rough hammering, as the finer ones split under a heavy hammer; they are generally to be used without any temper, because of the liability of such delicate instruments to break under the pressure necessarily brought to bear upon them.

We have now to consider the materials available for the filling, and the forms they are to be given for that purpose. From Dr. Lord I learned to use gold foil, cut in strips of from a quarter to a half inch wide, carefully folded to about a half line in width, which were carried singly with the pliers to the bases of the concavities, and then caught upon the square cut ends of the pluggers, and carried to the apices of the cone-

cavities, the pluggers slightly withdrawn, and then forced up again, carrying more foil, which was thus packed densely into the mouths of the foramen, the process being repeated until the cone-cavities were filled *from their apices to their bases*.

Practically, however, there were many cone-cavities presenting themselves, the apices of which were inaccessible to the folded strips; and in difficult positions, the chances of catching the strip on the point of the plugger was about one in ten; these two obstructions I partially overcame by cutting gold foil of various numbers, from 4 to 30 into firm thread-like strips, and by introducing several strips at a time into the base of the cone-cavity. I found, however, that, despite the greatest care in operating, some coarse strips, or some fine ones corrugated, and stiffened by repeated efforts to find by touch the small bases which could not be seen, would choke the cone-cavities about half-way up, and could be forced no further by the delicate pluggers reaching to those points. Tin foil then occurred to me as meeting the requirements of the case, because it is soft, welds easily, and does not harden by being crinkled; practice confirmed the theory, and after many vacillations, because other things being equal, gold would be preferable as less oxidizable; yet experiencing many chokings with gold, I finally settled upon tin, and now would give a hundred dollars an ounce for this purpose if it could not be obtained at a less cost.

To prepare the tin for filling, select the toughest foil you can find, cut a sheet in two, lay one-half in your left hand lengthwise, bring the thumb down upon the end near the tip of the forefinger, put the blade of the foil-shears under that end across the finger tips, cut a thread, open the shears, and, keeping the left thumb pressing lightly on the foil, feed it steadily forward after each stroke of the shears. A little practice enables one to prepare the foil finely and quickly. Taking now a bundle of these fibres in the plugging forceps they are placed in the dental cavity, and successively carried on the points of the pluggers to the apices of the cone-cavities, as previously described; and the operation thus rationally and carefully initiated, may be completed or not without affecting the point to which I have sought to direct your

earnest attention, for the root filled at its apex cannot again induce aveolar abscess by the process of distillation, the mouth of the retort being sealed.

There remains only to be added an injunction to be present, persistent, and particular, in conducting the operation through its preparatory stages, and your reward will be found in an experience, which will enable you to subsequently say, "That tooth is filled at its apex, and I know it is saved past any fear of neuralgia," or "taking cold in it," or "disease at the root, or of having "to have it out," and for such other phrases as are commonly used to mask ignorance and incompetency in this highest *apex* branch of your profession, you will have no further occasion.

GENERAL CULTURE FOR THE DENTIST.

BY S. H. HARLAN, MECHANICSBURG, O.

It is quite unnecessary to say aught touching the indispensable need of careful study and preparation in each and every department of science, out of which the intelligent and successful practice of our specialty can only be evolved.

Certainly that would be superfluous, since it has passed into universal acknowledgment among the better educated members of our profession, that now and hereafter, thorough and patient study of the commonly prescribed text books must at least precede the assumption of the duties and responsibilities of the dentist,—a preparation and training so conscientious and exhaustive, that the censors before whom he must appear for examination shall readily recognize his attainments, and freely accord him professional fellowship.

All this is understood and admitted.

But after that what? Is it enough, will it suffice, for an honorable and successful career, that only the prescribed studies pertaining to his profession be mastered? Have the obligations or necessity for a broader culture been sufficiently urged upon us as members of a liberal, an enlightened and progressive profession? I believe that some of us have grown into the notion that our attainments will be deep and

high enough, and sufficiently cyclopedic, when we have absorbed the text books and literature of dentistry merely.

Now, of the some thousands of dentists in our country enjoying a reputable practice, probably not one half the number have had the benefits of an University education.

The fine, sharp, mental discipline, the outgrowth of such opportunities — that drawing out and rounding up of our faculties, incident to such training, is inaccessible to a considerable proportion of the present members of the dental profession.

Many of us, who forty years ago vegetated in rural districts, enjoyed no better facilities for acquiring the then common English education, than what was furnished by the country school. Taking that very moderate and rudimentary stock of lore, as the basis and body of our culture. And if what I offer to-day has bearing and significance for any, it is for precisely that portion of our brethren. And the writer hereof frankly acknowledges himself as one.

What though age, and increased duties, may appear as bars to habits of study, yet much can be done toward adding to that repertory of facts and principles, which really underlie all high and noble achievements. There is much to be accomplished yet for such as we. And while it is all too late to commence a *systematic* study of the classics, and the exact sciences, too late to do fully and *completely* the work that is best, and most lastingly done during the susceptible and even ardent days of youth, yet we need not go barren of a passable and even comprehensive knowledge of the majority of leading sciences outside of, and beyond our specialty.

We should read.

Some of us have leisure for much reading, while most of us do read frequently and voluminously; but alas, too large a percentage of our reading, I fear, is of an ephemeral clap-trap character, represented by the *light* literature of the day; but most notably by the ever ubiquitous daily newspaper.

Not only should we familiarize ourselves with the best productions of pure literature, but grow largely acquainted

with physical sciences as interpreted by their ablest exponents. We can, so to say, put ourselves in rapport with the illustrious phalanx of thinkers and scientists of the present and near past, and be quickened and stimulated by the contact.

It is but to repeat a hackneyed truism to say that we live in a progressive epoch.

In recalling the remarkable discoveries in physical science within a quarter of a century past, made since Humboldt gave to the world his immortal "Cosmos,"—the discovery of the mechanical equivalent of heat, Spectrum Analysis, Tyndall's wonderful experiments and discoveries, the enunciation of the great naturalist's hypotheses of the Origin of Species, one can not but feel a pardonable pride in believing that he lives and thinks in a period of mental activity unsurpassed if ever paralleled in the career of mind.

You may answer—"what has all this to do with the progress of dentistry?" Well, directly it may have no intimate, no close relationship; yet, indirectly it has much.

For though in Herbert Spencer's "First Principles" is found no hint as to the best materials for artificial dentures, or Huxley's "Lay Sermons" no word on Dental Hygiene, and though Lubbock and Lyell remain silent on first dentition or the eruption of the sixth year molars, and so on of Mill, Bain, Carlyle, Hamilton and the rest, yet I hold that by the mere effort to grasp their statements and assimilate their intellectual treasures, we strengthen our mental faculties and fertilize and vivify our powers of reason, observation and analysis:—In short we prepare ourselves to be more industrious, cautious, deductive and philosophic, in every line of inquiry and experiment which the practice of our profession may from time to time evoke.

Let me trust that no member of this society leans toward the opinion that the dentist should essentially and practically be a person of one idea—no matter how intent upon it he may be, no matter if he would consecrate himself to that end. But rather let us recognize as a dominant truth that by widening the scope of our mental perspective, instead of growing superficial and diffuse, we may become scholarly, ripe in judgment, accurate in execution; and thus useful and dignified members of our profession, and cultured society at large.

FILLING TEETH.

BY J. CLARK SCOTT, D. D. S., LANCASTER, O.

EDITOR REGISTER :—While I am well aware that under this head a great deal has been written, I am as well convinced that too much can not be written ; for, first, saving the natural organs by successful filling must be acknowledged by all to be the crowning end of the dental art ; and, secondly, every man engaged in the profession knows that a large amount of unsuccessful work is every where done. For these failures there are reasons which can be assigned, but which it is needless to occupy much space in referring to.

I shall assume that good filling and success can be attained, in every case where the normal conditions of the teeth and of the mouth will admit of the attainment ; and therefore I must be allowed to affirm that failures and imperfections under proper conditions, are chargeable alone to the dentist. This affirmation I expect will be acceded to by all.

I may not say much that is new ; but if I say no more than what has often been well said before, I shall hope to be in some degree instrumental in holding the minds of operators to the importance of the work they undertake to do, as well as to remind them of the moral responsibilities they assume.

Starting, then, with the admission that an amount of imperfect tooth filling is every where encountered, we may briefly refer to some of the reasons that will explain.

It is not necessary to say much of the degree of skill and innate ability to successfully prosecute mechanical manipulations that distinguish some men from others, even when their very best efforts have been put forth. There are natural differences in men's abilities in this respect, as well as in every thing else, and which nevertheless involve no moral accountability beyond the fact that, whenever any one becomes innately convinced of this lack of talent as a successful manipulator of the teeth, his duty to himself, and to the public, requires that he should at once abandon the profession and direct his efforts to some calling better suited to his abilities. But of this every one must be the judge for himself.

And neither do I propose to say much of the relative value of the old method of wedge, or ball work—and the adhesive or dry method that can only be accomplished by the employment of the “rubbercloth” and “the mallet.” I am satisfied that a great deal of good filling has been done in small round cavities, with or without the use of the mallet ; work that has stood the test of years, and that will continue to save the teeth, perhaps through to the end of natural life. But I am fully satisfied that no such success can be reached by the old methods, in the case of proximal and difficult cavities.

To reach excellence in tooth-filling, then, the dentist must possess natural ability, to which must be added a thorough educational ability. These qualifications possessed, the judgment will be called into requisition in every case that is presented, to decide on the diagnosis, and the methods to be adopted, when the whole mind is to be concentrated on the work, both in preparation of cavities and adapting the metal to them, until the work is completed. To know what is to be done, and how to do it, is the whole knowledge required ; and he who is thus qualified, and then gives himself earnestly and unremittingly to the case he has in hand, will succeed, while he who is deficient in any of the requirements above specified, will fail.

But no matter what any one's qualifications may be, if he can not command himself ; if he can not feel entirely self reliant ; not once doubting his ability ; or his ultimate success ; while at the same time he is so thoroughly self-poised that none of the annoyances so frequent in tooth filling can in the least disturb his equanimity, he will never-the-less fail to accomplish first class work.

A dentist must be so thoroughly himself in all things, as to at least be satisfied with himself. A man who has good judgment, and competency, and who is satisfied with himself, is a safe man to trust in any of the affairs of life. A wrong doer, or one who has defects he can not overcome, is never satisfied with himself, and never makes others satisfied with what he is or does.

These are as much lessons for the dentist to know as anything that concerns him in life.

ADDRESS.

ON BEHALF OF THE GRADUATING CLASS AT THE COMMENCEMENT OF THE OHIO DENTAL COLLEGE, NOV. 5TH, 1873.

Mr. President and Gentlemen of the Faculty :

In the observance of the usual custom of pronouncing the valedictory address upon occasions of this kind, it is the fashion to employ the language of praise and adulation. But, disclaiming all motives to be fashionable, I employ the simple language of sincerity and thankfulness, when I beg to express to you our profound appreciation of your efforts, your perseverance and industry, in promoting us in the knowledge and science of Dentistry ; these qualities, coupled with the knowledge and ability which you have brought to your responsible offices, have indeed made our opportunities rare and valuable. We hope, Gentlemen, that they have not gone unimproved and unappreciated by us.

The relation of preceptor and pupil which we have sustained toward each other for two years, has not been productive of advantage to us in a professional sense alone, but has created, in our daily intercourse, a personal attachment which renders our parting from you painful and reluctant.

Yet, having finished the prescribed course, we go hence, bearing in our Diplomas the evidence of honorable graduation. But we will bear in mind the admonition so often given us, that the *study* of Dentistry does not end here ; that Dentistry is an acknowledged science ; that its study is to be continued through long years of practice ; that a Dentist may and should become learned as well as skillful in his Profession.

And now, Gentlemen, again expressing our thanks for the skill and industry with which you have conducted us through our course of study, and the patience with which you have borne with us—we bid you adieu.

Fellow Graduates :

These closing exercises dissolve our relations as classmates and fellow students of this College.

An almost hourly association, a common end in view, and mutual sympathy, have together engendered among us a

brotherly attachment which coming years will strengthen loiterers by the way side.

In the course of our studies we have learned that Dentistry is a science demanding study and reflection as well as skill ; that to become experts in the art of Dentistry it is absolutely necessary to extend our knowledge and investigation into the realms of scientific research, for it is truly said that "A principle in science is a rule in art."

Hence, while we are permitted to practice our profession, every sense of professional pride and honor, as well as our personal good, demands that we hold the science of Dentistry above the realm of quacks and pretenders. This can be done only by acquainting ourselves from year to year, with the literature, discoveries and principles of our profession. The value of this professional scholarship is becoming more important as the popular demands upon dental surgery increase and the popular intelligence upon the subject spreads.

We can remember when "tooth drawing" was practiced by the most ignorant and bungling of people. We can remember that in many villages and even in our cities, the barber displayed in front of his shop, a sign inscribed "Bleeding, leeching and tooth drawing ;" and to give his surgical profession greater prominence, adopted the original plan of establishing before his door an emblem of his skill in a striped pole, whereon the stripes represented the flesh the bandage and the blood. But the march of common sense has removed the occupation of tooth drawing and surgery from such crude hands, and our tonsorial friend has been compelled to remove the sign of bleeding, leeching and tooth drawing ; but pride forbade that every vestige of so honorable an occupation should be obliterated, and so to-day the "striped pole" is the universal sign of the barber's shop, and to him the most unmistakable monument of the lost art.

But Gentlemen, I fear, judging from the way Dentistry is sometimes practiced in this city and elsewhere, that some of our tonsorial friends have made a mistake, and removed the wrong sign. That if, at some of our so called dental establishments the sign that indicates dental surgery were removed, and the "striped pole" substituted, it would indicate a more legitimate business for the operator within.

My friends, it behooves us to avoid the atmosphere of quacks ; to keep before us the model of the perfect dentist.

A discriminating popular intelligence will place every man upon his proper level.

It demands of all a thorough acquaintance with and skill in his occupation.

It is said that there is no science but what abuts upon, and is in some degree interwoven with every other science. I think this is true of Dentistry. I do not undertake to urge that a professional dentist should master all the sciences, but I do say that he should acquaint himself with such principles of every other science as do or may contribute to that which he has chosen as his business in life.

Therefore my fellow Graduates, let us upon this occasion, in taking farewell of our *Alma Mater* and of each other, resolve to walk in the choicest fields of our profession, and not be loiterers by the way side.

CHEMISTRY OF THE MOUTH.

BY M. M^CCARTY.

Read before the Tennessee Dental Association.

In attempting to write an essay upon the Chemistry of the mouth I have purposely omitted the analysis of the teeth and saliva, for two obvious reasons. 1st, because I could not make it—hence it would not be original. 2nd, because you have all seen it time, and again and have it now in your text books ; consequently it would not be interesting to you.

I will therefore pass on, take up and endeavor to account for Dental Caries ; or more properly speaking the chemical corrosion of the teeth—for it is to chemical agents from without, that we must attribute the decay of the teeth.

It is to defective formation of the teeth in a great measure that we must look, in order to ascertain why it is that chemical agents act readily upon them.

Teeth that are covered with a dense and thick enamel, that

s perfectly fused in the fissures during development resist all the ordinary corrodents for an indefinite period.

While those that are formed when there is not enough of the lime-salts elaborated to make the teeth of the proper density, and when the edges of the enamel do not fuse so as to perfectly close the fissures, or where there is a lack of vital energy to make and build up the structure perfectly, are subject to and will be frequently attacked by dental caries.

The first mentioned class of imperfect teeth are characterized by their whiteness and softness.

They are white and soft because there is a predominance of animal matter in them, and a consequent deficiency of earthy matter or lime-salts.

On account of the abundance of animal matter the atoms of earthy matter are (comparatively speaking) far apart ; and are very liable to decay because the corrodents can easily pass in between the particles of lime salts.

Of the second imperfect class are those that have open fissures on the grinding Surface ; allowing chemical agents to pass into the dentine. We often meet with this class of teeth in young patients before decay sets in. A delicate thin bladed excavator readily passes in between the edges of the plates of the enamel ; hence we can foretell the destruction of such teeth if the decay is not arrested. Query : is an operator justifiable in filling such teeth ?

We now come to consider these "fell destroyers" these messengers of destruction — the agents that corrode and destroy these beautiful pearly gems of the mouth ; and cause them to stink worse than did the Augean Stable.

How are we to account for the presence of the agents of decay in the mouth. Acetic, Malic, Citric, Tartaric and Lactic acids are very abundant in the food we eat and drink. We are told however that none of these would do our teeth any serious injury in the diluted state we take them.

But we very well know that they set our teeth on edge, and what is that but the result of chemical corrosion ? As the chemical union takes place between the acid and inorganic matter of the teeth the nerve fibrils are exposed ; then we have the oxygen of the air acting upon these bare tissues producing pain known as "teeth on edge."

We use acetic acid in one way or another almost daily. Vinegar is put in many things unnecessarily to sharpen our appetites and make us relish our food. But the great source whence comes its most injurious effect is the pickle.

The bottled pickle is most injurious in its effect. Pickles are generally made in brass kettles with acetic-acid vinegar, known as patent vinegar; a part of the acid uniting with the copper forming acetate of copper. (which is deadly poison.) This gives the pickles a beautiful green tint; then they are prized by epicures for their sharp taste and fine color.

Young ladies are particularly fond of strong pickles, and eat them at improper times, just before retiring for instance, without taking anything in the mouth afterwards to neutralize or remove the acid; the consequence is it unites with the lime of the teeth; and it is for those who have been thus imprudent that we are called upon most frequently for our services. Malic acid is found in apples. Lactic acid in sour milk. Lemons, cranberries, gooseberries, strawberries, and raspberries, all owe the sourness to citric acid.

Tartaric acid exists in grapes. This is the acid that the fox objected to in the grapes that he could not get. It is much used in medicine to form acid refrigerant drinks and effervescing draughts. There are many other vegetable acids that are occasionally brought into contact with the teeth; but we have said enough about the more important.

Next in order are the mineral acids that are taken through the mouth as medicines. And it is to these we must look for a great amount of the injury we are called upon to repair.

Physicians often find it necessary to prescribe elixir vitriol, tincture of muriate of iron, and nitro muriatic acid, for diseases to which these medicines are severally applicable. And generally be it said to their credit they warn their patients of the injurious effects of these agents upon their teeth, and give them instructions how to take them to prevent the injury. But alas! how few patients follow strictly the directions given them.

During the progress of dyspepsia hydrochloric acid is frequently thrown into the mouth by eructations from the stomach. It being one of the constituents of the gastric juice.

In the course of many diseases there are elaborated into the system acids that find their way into the mouth by the salivary glands. For instance, in gout, rheumatism, ague, diabetes, gastro enteritis, the saliva contains lactic acid. And acetic acid in aphthæ, scrofula, scorbutus, smallpox, and indigestion. Uric acids in gouty affections. In fact during any depraved condition of the system acidity of the saliva is likely to occur.

METHODS AND MATERIALS TO BE USED IN FILLING TEETH.

READ BEFORE THE MISSISSIPPI VALLEY DENTAL ASSOCIATION,
BY J. A. STIPP, D. D. S.

The subject under consideration is one that has not been passed without attention from the profession, but has called forth not a little study and thought. It has been with many a subject of life-long experiment and hard labor.

The methods, materials, and devices employed at the present day, for the purpose of filling teeth are quite numerous ; so much so, that an attempt to describe the various substances, and define their respective qualities, would be a task far beyond anything contemplated in this paper.

But I will endeavor to confine myself to the subject, and consider in part that only which is the *best* and most suitable for the purpose of filling teeth.

In the selection of materials for filling teeth, there are some very important considerations that should constantly be kept in view. The first and principal of which is the protection of the tooth from further decay. This is to be done by protecting the affected part from the influence of those agencies upon which the disease depends.

Materials should be selected that will not under any circumstances operate either as a local or constitutional injury, and to meet this consideration its properties should be well understood. Any substance, whether simple or compound, that has not the power of retaining its identity and integrity while subjected to the action of the fluids of the mouth, is anything but desirable as a material for filling teeth. Here

we have two different kinds of action to contend with, to wit; *chemical* and *mechanical*; hence, one very important property to constitute a material for filling is that of *indis-structibility*; a material, if possible, should have this power of resisting the action of surrounding influences.

Another essential property to constitute a material for filling is that of *adaptability*, by which is meant a capability of being wrought into suitable shape for purpose of protection; a facility of being applied and conformed to the parts against which it is placed. There are substances that would prove indestructible in the mouth, and that would be very desirable in many other respects, yet they are worthless for fillings, from the fact that they do not possess the property of being adapted to the parts. On the other hand, many substances possess adaptability, yet lack other very important qualities.

Another desirable property is *hardness*. A material may possess all other suitable qualities and lack this very *important* feature. Materials for fillings designed to occupy the grinding surface of the molars and bicuspid, should be hard enough not to be broken down or worn away during mastication. Again, a material should be as nearly as possible a nonconductor of heat, particularly for filling sensitive teeth, or those liable to become so under the influence of slight causes. Great variations of temperature will in many instances aggravate sensitiveness, and in susceptible cases produce it, and if the irritation is continued *evil* results may attend. Gold, which possesses the largest number of desirable qualities as a material for filling teeth, is in this respect very defective; transmitting as it does every thermal change, immediately to the sensitive portion of the tooth. We may, however, remedy this defect by placing some non-conducting substance between the gold and the sensitive part. Among other properties mentioned, a material should be susceptible of being welded or united in a *solid* mass. The permanency of a filling depends largely upon this property. A filling having the various particles composing it perfectly *united* and *solid*, will prove *far* more durable than one in which the particles are not welded together, and are dependent one upon another for their retention. Mainly, because a *solid* filling is not so liable

to become disintegrated, and broken down piece by piece. The operation of filling teeth is an interesting and important one, requiring great *care, skill*, and not a little experience.

Filling is the only means as yet ascertained of completely effecting the object for which it is employed, arresting decay and preserving the teeth. I do not deem it advisable to go into a discussion of the various metals that have been employed for filling teeth, as it is that which is the *best* that we are in search of. Besides it could not be anything more than a repetition of what has been said of them in the past. But of all the metals that have been used as materials for filling teeth gold stands preeminent, possessing as it does more than any other the requisite qualities for a good filling.

As to the form in which it should be used there is a diversity of opinion. Some operators claim advantages for one over another. You are all aware of the feeling that existed at one time in regard to the use of adhesive and non-adhesive gold ; and even at this time some are a *little* enthusiastic on the subject. But I think, (and no doubt you will bear me out in the assertion) that *better* results can be obtained by the use of that possessing the *adhesive* property.

In the use of soft or *non* adhesive gold, all depends upon the general form or shape of the cavity for its retention as a filling. On the other hand, in the use of the *adhesive* gold it is not so. It matters not what form or shape the cavity has, or whether you use the foil, the crystal, the block, the cylinder, or that in the form of pellets, the same results may be obtained. Not so much depends upon the form of the gold used as does upon the *manner* in which it is used. In filling teeth with gold the retention of the filling depends mainly upon secure anchorages, made by means of retaining pits found at the base of the cavity, and elsewhere where they can be made in firm and strong dentine. We may, however, in connection with the retaining pits, so form the cavity as to call into requisition the principle of wedging. But from this base or anchorage the structure of the filling proceeds, and with almost the force necessary for the perfect condensation of the gold, directed in a line with the longitudinal axis of the tooth.

In making adhesive fillings the lateral force applied is light in comparison with the welding force required in making non-adhesive filling ; there is not that tendency to breaking the walls as where so much lateral pressure and wedging force is used ; while the filling can be made more *compact*, thereby giving greater durability. This method, I think, will clearly demonstrate to each one the advantages to be derived from its adoption.

There are cases in which the wedging method can not be employed ; as where it is impossible to so form a cavity so that it shall present two opposing walls parallel to each other ; or where the walls are so thin as to render sufficient wedging force impossible without liability of fracturing them, or placing them in danger of being easily broken down.

Now gentlemen, it would be simply absurd for us to advocate the filling every tooth with gold, or suggest any definite course. The surrounding circumstances must be taken into consideration.

The pathological conditions of the parts involved should be fully apprehended. Then use the means best adapted to the conditions. If we find that it would not be prudent to use the gold, we should use that which approximates closely.

There are several compounds that may serve a good purpose in the way of temporary fillings, among which are Guillois' cement, and Hill's stopping. But as you are well acquainted with them and their merits, I need not enumerate them.

As to the method of filling teeth with gold there are several. One favors the smooth points, another the serrated points. Many of our best operators use the serrated points exclusively. I think that the serrated point leaves a better receiving surface for the next piece of gold ; and if the serrations are very *fine* and *delicate* and great *care* is exercised in having each particle of gold perfectly condensed, the pitted surface so frequently found is not likely to exist when the filling is completed. The better plan, I think, is to have both the serrated and smooth points lying on the operating tray, then use such points as seem best in each case.

We may locate the retaining pits at the most favorable

points. Care having been exercised in making them in firm and strong dentine, the margins of the cavity made smooth by the use of the smooth round file or the chisel, in order that we may be enabled to make as close a union as possible with the gold. If the cavity is in the proximal surface of the tooth, and there is not sufficient space between the teeth to admit of free and ready access, do not hesitate to employ the wedge. Above all things do not seek to gain admission by the use of the file. As this practice presents a very unsightly appearance, opens up a new avenue for the decay-producing agents, as well as destroying the *beauty* and *contour* of the organ thus operated upon.

Every thing now in readiness, the cavity *fully* prepared, steps are taken to keep the tooth perfectly dry. This very essential precaution is second to none other in the process of filling teeth. Without this we need not expect to accomplish the desired end ; and in order that we may do this effectually we must apply the *rubber dam*. True, a little time and labor may be expended in adjusting it, and the patient may suffer a little inconvenience for a short time, but we will find ourselves amply rewarded when the work is completed.

Now wipe out the cavity, making it *perfectly dry* by means of a small piece of spunk ; or inject a current of *warm* air from the air syringe, made for the purpose. Commence in some remote corner or part of the cavity, filling one pit then another, building on, and locking each piece of gold firmly with another. Anneal each pellet of gold before introducing it into the cavity. Use the plugging pliers for the purpose of picking up the gold and passing it through the flame of the spirit lamp.

The practice with many of picking up the gold with the plugging point, and passing it through the flame also, is an objectionable one. In so doing the temper imparted to the instrument by the manufacturer is drawn, the serrations become blunted, and many times destroyed. And not unfrequently the particles of gold are drawn from its place before it has been consolidated.

Place the particle of gold *just where you wish it to remain*. Consolidate each piece with the mallet in the hands of a

good assistant. Continue in this manner until the cavity is full, adding surplus enough to enable you to make a good finish. I think it a good plan to use *heavy* gold at this point, say No. 30 or 60 cut in small pieces; place the slip or piece where ever desired. Use the smooth "foot" instruments or the burnisher for thoroughly condensing the surface. I do not think that we can be too careful in packing the gold closely up to the walls of the cavity. Make it as it were a *part of the tooth*.

Care should be exercised in finishing not to allow the borders of the gold to project over the margins of the cavity, but simply to allow it to come up even with the surface of the enamel. When the gold is permitted to project over the margins of the cavity, fluids and foreign substances are liable to be insinuated beneath, and the same difficulty may ensue that we have sought to overcome.

The general routine to be gone through with in finishing is familiar to all of you.

Gentlemen, these are *thoughts* suggested to me at time of writing. I am fully aware that they are not unknown to any of you, and yet I trust that they may meet with your hearty approval.

OSTEOPHYTES.

Sometimes, in consequence of diseases of the teeth, and, particularly, of chronic inflammation of the root membrane, an irritation is induced in the maxillary periosteum, which is attended by its tumefaction and sensitiveness, occasions consecutive oedema, and not infrequently gives rise to the formation of an osteophyte of a fine spongy texture.

If a series of macerated jaws, which have contained carious teeth, be examined, several of these growths will usually be found, in the form of cribriform, unyielding lamellæ, generally adherent to the facial wall, more commonly to that of the lower jaw, and distinguished by a quite bright color. When peeled off and examined in thin sections they prove to be young osseous substance. They are located, almost always, upon the posterior segment of the jaw, are of very variable extent and present very irregular outlines; their thickness varies from one-quarter to one millimetre. They occur in isolated patches, and occasionally spread over the entire surface of the maxillary wall.

The period of puberty, together with the retarded eruption of the wisdom teeth, appear to be especially favorable for the development of osteophytes, and, when associated with an incomplete growth of the jaws, they are to be connected with unusual succulence of the periosteum.

Proceedings of Societies.

DISCUSSIONS OF THE MISSISSIPPI VALLEY DENTAL SOCIETY, MARCH 5th, 1873.

The following subject was taken up and discussed :

“ *Filling Teeth*—What may the patient reasonably expect shall be accomplished by the operation ?”

Dr. J. Taft, in introducing the subject, said that those who have the services of the dentist should receive benefit—that which should give relief and comfort. In many cases, however, more is expected than can be realized. The dentist encounters in the practice of his profession many difficulties—difficulties that are not apparent to the uninitiated. These difficulties modify the character of operations, and influence more or less the result attainable in them.

The patient and operator are alike subject to unfavorable conditions, which vary exceedingly. That which under one class of circumstances and conditions can be well, and easily done, will, under others, be an entire failure, or only be accomplished with great difficulty and in an imperfect manner.

Some teeth are so defective in structure, that the most that can be done for them by any operation will only retard decay. It was impossible to prevent decay in some teeth even by good filling ; there were local and systemic influences which operated injuriously to the teeth. These things should be taken into consideration, and it was only that patient who understood the modifying circumstances, who could form a just estimate of what can reasonably be expected. It was the dentist's duty to so educate, and give him correct views as to what he should expect.

Dr. McKellops thought patients expected a good deal more than they get.

Dr. Knapp stated that many operations which he expected to last did not turn out well, but he believed that patients could be reconciled to have second and even third fillings in order to save the natural teeth. He thought if dentists did

their best they could safely promise patients the use of their natural teeth through life, subject of course to some modification.

Dr. Frank Hunter said, "If we can not give them the assurance that their teeth can be preserved, the question is not answered.

Dr. Harroun thought patients expected too much, yet a great deal lay with the dentist as to what they should reasonably expect. He thought they could expect to retain their teeth, but in his practice he insisted upon the most scrupulous care, cleanliness, and regular and frequent examinations of the mouth and teeth, to see that his patients were careful.

Dr. Rehwinkel called to the chair Dr. Horton. He believed patients expected too much, which was greatly owing to the dentists themselves. Some promised that fillings would last forever and a day, disregarding thereby all considerations of systemic and local causes operating against a healthy status. He had no doubt there were dentists present who observed causes operating through families, destructive of the teeth, and that it was necessary to provide against them. With such knowledge he could tell his patients what to expect, and raise and lower the standard of expectation. Every good dentist knew when the patient went out with the filling in his tooth that all control over it by the dentist ceased. Physiological and pathological causes operate, which may entirely alter the result reasonably expected, and they could not always be foreseen. That was exactly where the trouble came in, and patients should be so instructed and informed.

Dr. Wells thought they sometimes discouraged patients when better results might be expected. When a tooth was in good condition to start with, the patient had a right to expect from a careful filling that it would last from two to five years. He instanced teeth decayed below the gums saved by the improved practice of the present day, to show the length patients could go in expecting useful results from careful filling, and spoke of his own encouragement from experience of saving badly decayed teeth.

Dr. Corydon Palmer thought that as a rule patients did not expect enough. The wholesale destruction of the natural

teeth all over this land was sufficient evidence of this to him.

If taught to expect better things the people would not submit to have their teeth extracted ; would not consent to part with them on any consideration. He thought dentists should be true to themselves in this matter, and tell patients what they might expect.

Dr. James Taylor thought his duty ended when he filled the tooth ; then the patient took all the responsibility for the future care of it. As a physician gives medicine for a specific purpose, he expected a certain result, yet there were conditions occurring which modified the result. All this was different with the dentist.

Dr. Horton was of the opinion that people can expect truth when they have the capacity to understand it. There certainly should be an effort to have people understand, and for that purpose there are two parties concerned, the operator and the patient.

For his part he believed in taking hold, and making the very best work, but there were some dentists who seemed to lack the decision to take hold and perform difficult operations, and therefore they failed. They shirk responsibility.

There were some people who insisted on having amalgam fillings, but he maintained that they should be convinced of their error, and that dentists should absolutely refuse to do inferior work. When under-age people come for treatment, their parents or guardians should be sent for, and matters so explained to them that nothing but good work would be received. It was important too that the operator should keep his temper, for he would have much to try it by the ignorance and want of appreciation on the part of patients.

Discussion closed.

On motion of Dr. H. R. Smith, the Association next took up the subject of "Dental Legislation: Is it practicable? What benefits to the public and the profession may be expected by enforcing such laws?"

Dr. H. A. Smith doubted if it were practicable. There was an impression abroad that there was too much legislation—class and special legislation. He thought that public opinion regulated evils. He thought legislation for dentistry

impracticable, because ever since the law was framed there had been a constant effort to modify it.

Dr. J. Taft took issue with the gentleman. He thought Dr. Smith yielded too much. It was in no sense class legislation, nor could he see that there was any public opinion regarding it as such: The law is an advantage to the dentist, but it exposed the quack, and stripped him of his pretensions. Since it was passed a rapid progress has been made. Hundreds in the profession had studied up, and made progress in order to meet its requirements.

The idea that it was for the advantage of a class or for a few was all wrong. On the contrary it was for the general good—for the dentist as well as for the people, by putting a check upon the mischief done by bad dentists, and by stimulating higher and better efforts and attainments. It had been charged against the law that it raised fees. Nothing could be more untrue, for it is notorious that the best men do not get the best prices. The law did not effect it one way or another.

Dr. J. Taft maintained that the law could not only be made operative, but that it is operative, not in a punitive sense, but in preventing the practice of inefficient dentistry. The law was not perfect by any means, yet such as it was there were some in the profession who opposed it. They were to be pitied, perhaps sympathized with, and yet its requirements were such that any dentist could comply with them. Many have already done so, and some have been rejected by the State Board of Examiners, but have gone back and prepared themselves by study, returned again, and were accepted. Such men will stand well and rise in their profession.

After some remarks by Dr. Osmond, H. A. Smith, E. C. Hamilton, and Horton, relative to the form of examinations, the subject was passed.

Wounding the tissues beyond the apical foramen, carrying the filling beyond this point, or imperfect removal of the pulp are errors to be avoided in the treatment of pulpless teeth.

DENTAL REUNION.

FOURTH ANNUAL MEETING OF THE SECOND DISTRICT DENTAL SOCIETY OF NEW YORK.

The fourth annual meeting of the society was held Tuesday April 8, at the residence of Dr. W. G. Mirick, No. 156 Clinton street, Brooklyn. There was a large gathering of distinguished members of the dental profession present.

This society embraces nine counties, and is at present in a most flourishing condition. Its reunions are regarded with great interest. In addition to all the more prominent local dentists, many leading representatives of the profession from various parts of the country were present, among whom were the following: Dr. Atkinson, New York; Dr. Jarvis, New York; Professor Shepard, Harvard University; Dr. Kingsley, Dr. S. S. White, Philadelphia; Dr. Wheeler, Albany; Dr. N. W. Hawes, Boston; Professor McQuillan, Philadelphia; Professor Woodward, New York; Dr. Ambler, New York; Dr. Comlie, Mexico; Dr. A. C. Hawes, New York; Dr. Miller, New York; Dr. Brunson, New York; Dr. Bogue, New York; Professor Francis Abbott, New York; Dr. Clowes, New York; Dr. Barry, New York; Dr. Carr, New York; and many others.

The meeting was called to order at 3 o'clock. Dr. O. E. Hill, the President of the Society, in the Chair, and Dr. M. E. Elmendorf, Secretary.

After the reading of the minutes of the preceding meeting, and the transation of some formal business,

THE ELECTION OF OFFICERS

for the ensuing year was taken up. The vote was by ballot. The following is the result of the vote:

President—Dr. W. S. Elliott.

Vice-President—Dr. William Jarvie.

Secretary—Dr. M. E. Elmendorf.

Corresponding Secretary—Dr. F. W. Dolbear.

Treasurer—Dr. Mirick.

Librarian—Dr. O. E. Hill.

Censors—Drs. Straw, Marvin, Parks, Jarvie and Hurd.

Delegates to State Society—Dr. O. E. Hill and Dr. A. H. Brockway.

Article 3, Chapter 1, of the By-laws was then, on motion, amended to read as follows :

“Our annual meeting shall be held on the first Monday in April of every year, and quarterly meetings on the first Monday in January, July and October.”

TREASURER'S REPORT.

Dr. Mirick, the Treasurer, submitted the following report :

Balance last report.	..	..	..	..	..	..	..	..	\$256,69
Annual dues.	..	..	..	..	..	..	..	..	132,00
Interest etc.	..	..	..	..	..	..	..	..	18,77
									407,46
Expenditures.	..	..	..	..	..	..	..	..	210,77
Balance on hand									196,69

Dr. Dolbear, in his report as Corresponding Secretary, referred to the great interest which has been taken in the society during the past year. He has ascertained that there are 228 resident dentists in this judicial district.

INCIDENTS OF OFFICE PRACTICE.

Dr. Jarvie, Chairman of the Committee of Arrangements, then read several communications from dentists who were from various causes prevented from attending. These letters, in almost every instance, contained some interesting “incident of office practice,” that being the subject set down for discussion.

Dr. N. C. Barrett, of Utica, in his communication, referred to “facial neuralgia,” and strongly recommended the use of Misereum.

Dr. Allport of Chicago, wrote to his brethren, and earnestly recommended them to abandon the use of highly cohesive gold and heavy foil.

At the request of the chairman, an animated discussion followed in reference to the subjects suggested by the communications referred to.

Dr. Atkinson took exception to Dr. Barrett's views in re-

ference to the cure of neuralgia, and to Dr. Chase's in reference to the use of heavy foils.

Dr. N. W. Hawes, of Harvard University was next introduced, and read a brief but very able and concise paper, entitled "The reflex influence of Female Diseases upon the teeth, and the reflex influence of the teeth upon other organs of the system." Dr. Hawes called attention to the great sympathy which exists between different organs of the body, and how much the health of the offspring depends on that of the parents, and especially of the mother. He cited several forcible illustrations in support of his views.

Dr. Hawes' paper was listened to with great attention, and evidently produced a strong impression on those present.

Dr. Jarvis, speaking of the "Preservation of the Teeth," said that a certain amount of operating was necessary, but he had learned by twenty-five years' practice that the teeth could be preserved, first, by securing the proper condition, and then keeping the proper condition. There will then be no necessity for restoring them. The plan will be less laborious, less painful, and nobler than the constant "tinkering at the little holes."

Dr. Truman, referring to Dr. Hawes' paper, spoke of the necessity of dentists being well posted in collateral subjects. He had entire faith in the preservative tendency of cohesive foil. He disapproved of the practice of filling children's teeth with metal before they reached the age of fifteen years.

Dr. Shannon agreed with Dr. Truman on the latter subject, but differed with him in reference to hard foil, which he did not consider as preservative as soft foil.

Dr. Kingsley explained his system of using foils, and stated that he did not think there would be so much difference of opinion if the speakers really understood what they meant by hard, soft, adhesive and cohesive foils.

Dr. Shepard, of Boston, made an interesting address. He did not think it possible to educate people up to that point that they would keep their mouth in such a condition as to secure the teeth against disease. He recommended the use of a single strand of floss silk as a ligature.

Dr. Atkinson, Dr. Merrick, Dr. Hawes, Professor McQuil-

lan, Dr. Marvin, Dr. Kingsley, and others, took part in the discussion, which was not brought to a close till nearly seven o'clock.

THE RUBBER LICENSE QUESTION.

Dr. Marvin presented a long preamble and resolutions bearing on the rubber license question and the Gardner appeal case.

After denouncing in bitter terms the alleged double-dealing of General John A. Foster, of New York, at one time counsel for the Dental Society; the resolution concludes with a warm eulogy on Dr. S. S. White, who has represented the dentists of the United States in the great legal struggle. The resolution was carried with great enthusiasm.

Dr. White followed with a few remarks on the rubber patent question. He believed the patent was invalid, and hoped to have it so declared.

Newburg having been selected as the next place of meeting, an adjournment took place.

WONDERFUL RESTORATION OF AN AFFLICTED MINISTER.

The Rev. J. D. Crum, a member of the Southern Illinois Conference of the Methodist Episcopal Church, now laboring on the Pleasant Grove Circuit, in the bounds of the Vandalia District, had been afflicted with something like sore throat for ten years before he had to give up the active work of the ministry some four years ago. He settled on a little farm five or six miles from this city. His health continued to decline for two years, and his neighbors all said he must die.

As a last effort to regain his health, he left his home for Cincinnati to consult, the most experienced physicians there. Several were consulted but to no purpose. He grew worse for three weeks, when his brother was summoned from Circleville, Ohio, to remove him if possible, or to see him die. He succeeded in transferring him to his home in this city, and Dr. W. Griswold was called to visit him. The disease up to this time had deceived many of the best practitioners in the country.

Some thought it was the result of Diphtheria, others that it was a singular and protracted case of Tonsilitis, while others

again thought it an aggravated case of Catarrh. The patient complained of a sharp cutting sensation above the palate, as well as general inflammation of all the adjacent parts. Dr. Griswold conceived that Necrosis of the Ethmoid bone might be followed by an exfoliation which would produce in the flesh, the sharp pains complained of.

He therefore made an examination with an instrument and found that the process of exfoliation of the diseased bone or bones in that region was actually going on. One or two pieces of bone making their way through the flesh could be distinctly felt. The Doctor applied diluted Carbolic acid to the affected parts and gave the patient tonics to brace up his system. In eleven weeks Mr. Crum was fully restored to health, but with a loss of several pieces of bone and of his voice. Among the bones were also the palatal which from their proximity to the affected parts above, and contact with the matter from their protracted suppuration, had become similarly affected. In coming away, these bones had cut two clefts through the fleshy parts of the roof of the palate. The one in front is about three quarters of an inch wide. The other in the rear is perhaps three eighths of an inch in diameter.

These apertures through the roof of the mouth so destroyed the voice, that Mr. Crum had often in conversation to resort to pencil and paper to make himself understood. In this deplorable situation he suggested to us his intention to apply to a dentist at a distance, with whom he was favorably acquainted to secure a set of teeth, which he needed, with a plate running sufficiently back to cover clefts, he hoping at least for a partial restoration of his voice.

We begged the privilege of introducing him to Dr. W. B. Pike, of this city, feeling satisfied from the Doctor's reading and mechanical genius that he would succeed in this matter if any dentist could. When we applied to him, he answered very discouragingly. But he examined the patient at his earliest opportunity, and went to work. How to get up the proper amount of suction with these openings in the roof of the mouth was the difficulty. To overcome this seemingly insuperable difficulty, a good sized and well fitted plate was

inserted, sufficiently large enough to cover both openings completely, but not to interfere too much with the flexible portion of the palate which still remained. The gums of the upper teeth were well corrugated on the outside to increase the suction in that direction. The teeth were adjusted with great care and precision. And to the agreeable surprise of Dr. Pike himself, and of all the medical faculty in the city, his experiment was successful. The moment the teeth and plate were inserted in the mouth the patient's voice was completely restored. Mr. Crum converses and preaches with as much ease and with as clear and distinct a voice as he ever did. He has resumed the active work of the ministry again, full of zeal, and no less abounding in gratitude to Dr. Pike, who by the singular triumph in the practice of dentistry has won a place and a name among his compeers second to none in this country.

HIRAM STEARS.

Vandalia, Ill., Oct. 9th, 1871.

CARE OF THE TEETH.

BY D. C. HAWXHURST

In this article I purpose giving a few brief hints for the management of the teeth. And I shall address my words directly to the patient. In my own practice I have often felt that my advisory remarks to patients constituted the more important part of the service which I had rendered them. But I have wished that I were able to put a few recorded sentences into their hands which would tend to arouse in them a sense of the importance of the subject.

Among measures for the preservation of the teeth, cleanliness ranks first. It is more important than all things else. You may observe that those surfaces of the teeth which are kept freest from soft deposits of food by friction of the lips and tongue, are also freest from decay; on the other hand, all confined localities, interstices and fissures, where impurities are

sheltered from friction and removal, are burrowed into by decaying cavities. It is often asked: "Why do teeth decay most often in secret and hidden places, making the cavities both hard to find and difficult to fill?" It is because filth accumulates here and rusts out the hardest enamel. You have not done your whole duty by your teeth until you have removed the last atom of impurity from the most sheltered position between the teeth.

As a cleansing agent, the tooth-brush is indispensable; nothing has ever been invented that can equal it. It should not be too stiff, else it will wound the sensitive edges of diseased gums, and become an instrument of destruction to the very organs it is intended to save. It should not be used rashly, but with extremest care, so as not to injure the tender membranes of the gum while exploring the most confined interstices after impurity.

You do not know how to use a tooth-brush by instinct, as a bird builds her nest; it is a thing to be learned. Perhaps you have been using a brush for years while your teeth are still decaying. Go to some dentist, and assure him that you will not be offended by the truth: he will tell you that you do not half use your brush.

The brush should be used perpendicularly; it should be forced between the teeth both back and front; it should be carried briskly over the ends and into the fissures of the double teeth; it should be used on the inside of the arch; it should pursue its relentless search on every side of the wisdom teeth. The tooth-brush should also be used with an abundance of tepid water, else it will only stir up the impurities without removing them. Rinsings of soft water may be required to wholly dissolve and carry them away.

How often should the tooth-brush be used? For most people, so often that it will never get dry from one using to another. The brush must in any case be used as often as you eat. "Twice a week," and oftener when you "go visiting," will not satisfy the demands of hygiene. The organic atoms of food do not long lie exposed to the warmth and moisture of the mouth, without undergoing what is termed putrefactive decomposition. The result of this is an acrid, chemical

agent that attacks and slowly decomposes the enamel. There is, therefore, no safety unless the teeth are kept absolutely free from the pulpy remains of food.

You should never eat between meals. Cleansing the teeth is useful only until next you taste food ; immediately after *that*, they need a second cleansing. To go about between regular meals, tasting an apple here, eating a raspberry there, nibbling a crumb of biscuit at one time, or a cracker at another, is the high road to ruin for teeth. Such a course is disturbing to the stomach, even though you swallow but *little* ; it is destruction to the teeth though you swallow *none*. There is but one sensible and safe course. As often as food enters the mouth, it must be followed by the brush and water, even though it be forty times a day. Will you therefore keep nibbling and rinsing all day ? It is better to eat what you need, cleanse well your mouth, and, after that, keep it closed against the smallest morsel. Its purity should be held sacred against the slightest flavor of any aliment until the next meal. In this way *only* can you escape the frightful mutilation of the teeth which is going on in the mouths of those about you. Do you think that you can save your teeth by a less rigid adherence to the laws of dental hygiene ? Perhaps ; but the chances are wholly *against* you.

Most persons should devote from five to ten minutes each day to cleansing the teeth. Brushes of different quality, tooth-picks, floss silk for crowded teeth, should all be at hand. If you do not know how to use all these things, get some dentist to show you. Haven't time for all this ? Very well ! You will soon have time to spend with your dentist in having expensive fillings inserted. And when all is done, perhaps he will tell you : "The fillings are warranted if you keep your teeth absolutely clean, not otherwise." If you would save your children much suffering, and shield them from the worst kind of mortification ; if you would preserve their bodies pure and perfect, temples of the soul, teach them how to care for their teeth.

Editorial.

DIAGNOSIS.

The importance of correct diagnosis in cases of dental disease is often underrated ; and this is done not only by the student who is acquiring the elements of professional education, but by the regular practitioner, who is every day engaged in the treatment of cases.

Not only do physicians treat for the wrong disease, but dentists too make mistakes. A course of medication addressed to the heart, where the stomach alone is in fault, is no worse than an application of carbolic acid, to cure aching caused by a dead pulp in a sealed canal. Both are mistakes in practice, founded upon errors in diagnosis. That the practice of dentistry, as well as that of medicine, contains cases of faulty diagnosis is a matter of frequent observation.

And yet it is all important to the patient that a diagnosis of his case be made correctly, and at once. A mistake committed at this starting point must constitute the foundation for a long course of false medication. By diagnosis the character of the treatment is determined. If the diagnosis be incorrect, the treatment will not only not be salutary, but is almost certain to be pernicious. It is indeed better to do nothing than to do something which bears no curative relation to the morbid condition at which it is aimed. If the treatment be not curative in its influence, it is likely to be damaging. It thus appears that too much stress can not be put upon diagnosis. This is an advantage that must be secured to the patient, whether he be under the care of either the dentist or physician.

But if it be true that *correctness* of diagnosis is so *essential*, why are mistakes so often made ? It is because the making of a diagnosis is frequently the most difficult and perplexing thing which either the medical or dental practitioner is called upon to accomplish. There sometimes occur in the practice of the dental specialty cases of pain in the maxillary bones,

periosteal disturbances in the roots of teeth, affection of the fifth pair of nerves, or discharges of pus from obscure sources, the correct understanding of which may well tax the highest powers of genius. When the morbid condition is once fixed upon and understood, the work is, for the most part, easy ; but to tell *where* to treat and *what* to treat is the more difficult duty of the diagnostician.

In diagnosing an obscure case the practitioner must often summon to his aid all the anatomy, physiology, pathology, and histology, that he is master of. A patient comes, and is in pain. The most diligent inquiry after facts, the most rigid scrutiny of the sufferer's testimony, the keenest penetration, and the most rigid adherence to the ratiocinative and inductive methods of science, will not always conduct the inquirer to the true cause of the malady.

The numerous symptoms of the patient must not be considered in the order communicated ; they must be redistributed in the mind of the practitioner into their logical arrangement. The non-essential symptoms must be eliminated. Those which carry a real significance must be interpreted. Nor will it answer to give a too arbitrary interpretation, since the symptoms by which a disease is to be recognized are not invariable.

Many modifying circumstances and conditions are to be held constantly before the mind. Constitutional peculiarities and idiosyncrasies, temperament, diathesis, and heredity are a kind of personal mirror through which each patient must be viewed. These conditions, varying in different persons, proportionally modify the course of the *same* malady in *different* patients.

It is therefore true that those diagnosticians who have sought for pathognomonic symptoms have in general been in the wrong. There is no such thing as a pathognomonic symptom for every disease. Much depends on the mass of symptomatic evidence ; much on the conjunction of different symptoms ; much on the order of succession in which they arise. The absence of a symptom may be as significant as its presence.

But it is no part of my present intention to lay down the

alws of diagnosis. I have only desired to record a single word in favor of a more careful study of the subject, and mastery of its methods. A suffering patient, with a complicated assemblage of symptoms, presents a problem to the mind, which is not always an easy one. The path to its solution is often obscure, and difficult to trace; from it lead off many by-paths that open broad enough, but conduct it to nothing; it is beset by many pitfalls of fallacy, and misleading delusion that make the diagnosis of a complicated case the crowning performance of the skilled dentist or physician.

THE OHIO DENTAL COLLEGE.

Owing to unforeseen and unavoidable circumstances there is no session held in this Institution this spring, as was intended at the close of last regular session. The vacation of two or three of the chairs occurring at that time it seemed to the remaining members of the faculty that an opportunity should be given the Board of Trustees to reorganize the Faculty entire, and make such changes as the best interests of the College might demand. So with this view the Faculty resigned as a whole. This was done with the most perfect harmony and good feeling by all parties; and this was subsequently most fully evinced by the reappointment of all the members of the former Faculty whom circumstances would at all permit to accept.

In the accomplishment of this work so much time was lost as to render the holding of a spring session impracticable. This is a matter of regret to all the friends of the Institution; our colleges should all be kept open for instruction during the greater part of the year.

The Chairs in the College are all filled by the former incumbents, except those of clinical and mechanical dentistry: appointments have been made for these, but we are not yet authorized to announce their acceptance. We are fully warranted in saying, however, that the Board will not rest satisfied with anything less than the occupancy of these chairs by the very best men.

The determination of all connected with the Institution is

that its present standard shall be maintained ; and we are assured a higher degree of usefulness and efficiency will in the future be attained by virtue of enlarged experience, and the increased demand of the dental profession for an elevation of the standard of dental education.

The annual announcement of the Institution will be issued soon, to which we direct attention for details.

LAWRENCE'S FILE HOLDER.

This is a very useful little instrument for the dentist, devised and constructed by Dr. H. Lawrence, of New Orleans. It is very simple in structure, and efficient in the performance of the work for which it is intended. It is a handle or holder, chiefly for thin separating files ; it holds equally well the entire file or any portion of it, even to half an inch in length, so that these files though broken in short pieces may be used, which was not the case with any holder previously in use. The file is held at an angle of from twenty-five to forty degrees, with the shaft of the instrument so that it will operate the file upon a point that a straight file or instrument will not touch. It also serves well as a holder for chisel or cutting instrument bits. The bite of the instrument is sufficiently strong to hold firmly any of these instruments. It should be in the case of every dentist. We presume it can be obtained at any of the dental depots.

CALIFORNIA STATE DENTAL ASSOCIATION.

The California State Dental Association will commence its fourth annual session, in San Francisco, Tuesday May 20th, 1873, at 10 o'clock A. M., and continue four days. Every member of the profession on the Pacific Coast, is cordially invited to be present. Clinics daily.

H. J. PLOMTEAUX, Rec. Sec.

HYMENIAL.

Married April 23, 1873, by Elder C. M. Blanchard, at the house of the bride's parents, Dr. E. M. Creditor of Angola, Ind., to Miss Emma Cox, of Kendallville, Ind.

May the largest amount of matrimonial bliss be theirs.

ACKNOWLEDGEMENT.

We can not do less than make grateful acknowledgement for the very efficient and valuable aid rendered us in the editorial work in this and the two preceding numbers of the REGISTER, by very our worthy and scientific brother: Dr. D. C. Hawxhurst, recently of Battle Creek, Michigan, but now, and we hope henceforth of Cincinnati. If any body has wondered what has made the REGISTER start up with increased vigor recently, they have herein the explanation.—ED.

LESSONS IN PHYSICAL DIAGNOSIS, by Alfred M. Loomis, Professor of the Institutes and Practice of Medicine in the medical department of the University of New York; Physician to Bellevue and Charity Hospital, etc. Third Edition, revised and enlarged. W. Wood & Co., New York, 1872.

This work is a series of lessons intended to put the student and young practitioner into possession of those physical methods of examination, which will be useful to him in detecting abnormal states of organs and tissues. It is concise and systematic, though drawn from a course of lectures given by the author to his medical classes in New York. It is probably the best work we have in its own department of physical examinations by palpitation, mensuration, succussions, percussion, auscultation, and by various instruments.

After treating of each of the six methods above mentioned, the author proceeds in successive chapters to give a synopsis of the physical signs of disease in the lungs, heart, abdomen, urinary organs, and nervous system.

Where special topics demand it, they have been treated with minuteness and fullness.

To the examination of urine, three Lessons are devoted, to chemical, volumetric and microscopic tests for abnormal elements, and remarks on their clinical significance. The author's description of chemical reagents, apparatus, and methods, is clear and intelligible.

The various instruments of physical diagnosis are described under the head of "Mechanical Aids to Diagnosis," occupying about thirty pages of the volume.

This work, though it can not take the place of the more

philosophical works of DaCosta and others, will become a necessity to the student, on account of its thoroughness and excellence in its own department of physical examination, and is a valuable addition to our medical literature.

DISCUSSION ON OFFENSIVE BREATH.

We presented our readers in the April number of the *Register*, with some discussions of the Ohio State Dental Association, on Fetid Breath. It is due to the various speakers as well as to Dr. Hawxhurst, to say that his paper, so frequently referred to, has not been published. The article on "Offensive Breath," printed in the March number of the *Register* is a very different production.

MEETINGS OF THE CINCINNATI DENTAL ASSOCIATION.

The second and third meetings of this Association were held at Dr. Taft's office, on March 31st and April 15th, respectively, and were mainly devoted to a discussion of the Status of Dentistry in the City of Cincinnati. The subject was opened by L. P. Meredith. A most unusual interest was manifested in this question. Nearly all the members took part in the discussions; and the observation and experience of the Cincinnati profession were commented upon with much freedom.

D. C. HAWXHURST, Sec.

A joint meeting of the Illinois and Iowa State Dental Societies will be held at Rock Island and Davenport, on Tuesday, the 13th of May, and the three following days. Also a joint meeting of the Indiana and Kentucky State Societies in New Albany and Louisville, on the first Tuesday of June.

Let everybody in reach attend these meetings, as they will doubtless be grand occasions.

THE
DENTAL REGISTER.

VOL. XXVII.]

JUNE, 1873.

[No. 6.

THE DENTINE, CELLULAR AND FIBROUS.

BY PROF. GEO. B. HARRIMAN.

The above is the heading of an article in the October-number of the *DENTAL REGISTER*, 72, on which I propose in this paper to make some comments, by the author's permission, (S. P. Cutter, M. D., D. D. S.,) Memphis, Tenn., already granted in the article.

On page 407 I find the following : "As has been stated in previous articles, erroneous terms are employed by writers, when considering the structure of the teeth. Because such terms lead to dangerous practice, they demand further attention."

Year after year we read of "tubes," "tubuli," prisms, hollow pipes, etc. It seems that the writer differs with those who claim that the dentine has tubes, or is tubulated. On the contrary, he does not believe in or admit the existence of any such structure in the dentine ; he thinks they are constructed of *cells and fibres*, and thinks that our former notion leads to dangerous practice.

Now, if such be actually the facts in the case, I think it

high time the profession was set right. That is just what is needed at this day and time, as *we* claim as a profession to be very *learned, scientific, and wise*, in all our knowledge bearing in any way on theoretical or practical points.

I quite agree with the writer in the terms fibres and cells, and really have long since given into the idea, that all, or say nearly all organic structures, are made up of cells in some form, and many tissues, as nerves, muscles, and other tissues, are composed of fibres formed from cells, the latter being first formed, and when marshalled into line become fibrous, whether in single file, as in dentine, or solid phalanx, as in muscular tissues and other structures; still somehow or other I still cling to the idea that dentine has tubes, and these tubes are occupied by true nerve-fibres or fibrils, and that those fibrils are composed of single file cells in linear arrangement, forming, what the writer terms, axis cylinder of nerve fibre. Here we do not disagree at all, only all arrive at the same conclusion in a different way.

In relation to the true structure of the solid dentine we do somewhat differ, as I still believe that the solid dentine has tubes, and those tubes have solid walls, and those tubes are filled with soft animal fibres, which I believe to be true nerve fibres, with axis cylinder of sensorial nutrient functions, of the highest endowment, because having to resist all the shocks, the consequence of outcrossing of hard bony structures, exposed as they are to heat, cold, moisture, dryness, friction wear, concussion, and disease, which no other tissues of the entire body are subjected to.

The writer speaking of a tooth sent to him, by T. W. Clements, D. D., Pembroke, Me., says, same page, "The tooth had been extracted five years at least before the section was made, and it represents the cells and fibres most perfectly, and demonstrates beyond a doubt, that the soft solid substance has not dried up."

I can not exactly give in to the idea of the soft solid substance in the tubuli remaining soft all this time, as that seems to me to be contrary to physical laws governing universal structure.

We know that when the pulp in a tooth dies, or is killed,

and the cavity allowed to remain unstopped for a considerable length of time, the tooth, as a rule, turns dark, and we have generally supposed that dark color was caused by the absorption into the tubuli, or pores, as some would term them, of carbonaceous matters, or some principle contained in the juices of the mouth; and if the soft fibre still remained intact, no such discoloration could take place at all.

We might account for this discoloration from the decomposition of the soft fibre, in part at least; still the amount of decomposition of so trifling an amount of animal matter could not amount to much, and we must conclude that a certain amount of absorption into the tubes must take place, and there decomposing, causing the discoloration; in no other way can we attempt to account for this change in color.

Now if the fibres decompose or evaporate in any way from the dentinal tubes in the mouth, the same state or similar state of things, would take place out of the mouth, and the tubes would become emptied in some way of their organic occupants.

Put a tooth into the fire, and witness the result: smoke passes out from the tubuli if there be a cavity in it, if not through foramen of fang, and continues to escape until all the animal portion *so called* escapes, and the tooth has lost in weight in proportion to the animal to the mineral *so called* matter of the teeth; caustic alkalies also take out the animal matters. In both cases the tubular structure remains intact, or nearly so, and presents just about the same appearance of a tooth not so treated, so far as I have been able to determine under the microscope.

On the other hand, when the lime has been all removed from dentine by acids or decay, specimens of such dentine also retain the tubular structure, sometimes intact, and in their normal appearance; still the dentine has lost in weight, just in proportion to the amount of lime so removed. Now all this lime has to be washed out through these tubes we are discussing. In both instances of displacement, there remains still the ghastly structure of dentine, nearly or quite normal in appearance.

To my mind these conclusions are satisfactory as regards

the tubulated structure of dentine. Still I agree with the author in the main, that is, that the tooth is made up of cells and fibres ; the entire solid dentine, or the intertubular spaces are made up of a cell structure, and the tubular occupancy composed of fibres, which I have long maintained, are genuine nerve fibres, before any writer had ever positively asserted the same thing, which reference to some of my former papers will show. In this respect I took strong grounds against great opposition.

I have never used anything like as high powers as the above author in my investigations ; from the fact that I could not get light enough to give satisfaction. I used mostly 500 diameters, sometimes 700, giving a power not more than from 250,000 to 490,000 surfaces, which would magnify the tubuli from a quarter to half a million of times, with a good light, and good defining power.

In using a power of from 5,000 to 10,000 diameters, the specimen would be magnified from twenty-five to one hundred millions of surfaces, or power, a powers so enormous, that but very faint light at least could be had, and a cross section of dentine would show openings large enough to run the finger through, seen by a dim shadow only, no matter how the light may be condensed. On page 408 I shall have to *break a lance* with the author on several points.

Speaking of anastomosis of cells and fibres, *nerves, tubuli*, at junction of enamel and dentine, I must beg to differ very widely from him. In the cut on same page the *tubuli, nerves, cells, and fibres*, are represented as several of them uniting just before reaching enamel. Right here I take positive issue, and boldly state, without fear of contradiction, that no such anastomosing ever exists at or near the enamel, or any where else in the dentine of the crown of the tooth, where the tubes or fibres come up to enamel.

On the very contrary, every solitary tube that reaches the enamel, and all do so reach that start for it, bifurcate or fork, at least once, and sometimes trifork just before reaching the enamel, without any exception in what has been designated the coronal region of branching, in normal, or sound and healthy dentine.

The cut represents the tubes running with the enamel, in some places, and somewhat enlarged. This fact I have noticed in some specimens, at certain points, generally over the crown under the cusps, at which point, such teeth are generally sensitive to the file as it approaches the dentine, speaking theoretically, not sufficiently demonstrated as yet, owing to limited observation in this connection. Neither did I ever find any enlargement of tubuli until the enamel is reached, and as I have often stated, each and every tubuli has a distinct and bold terminus *per se* at the enamel, and no circuits or anastomosis so far as my observations have extended, notwithstanding there are many authors who may, and do differ with me on this point.

So far as seeing through the holes in a cross section or not, we do see what to me appears to be openings, so much so that light passes through, or apparently so, under 500 diameters, very distinctly.

The cuts on page 409 in fact, represent the same thing in an opaque substance with apparent perforation, though *microscopic*, as in all other minute organic structures; they are all microscopic, and cannot be seen with the naked eye.

Same page, writer says, in the so-called "tubuli" of the dentine, we not only find cells and fibres of connective tissue, but in many instances nerve fibres and ganglion cells can be traced from the pulp cavity to the junction of the enamel, dentine, and cementum.

I must confess I have never seen any difference in any respect between the contents of one tube and any other. The nerve fibre I adopt as a fact, but as to the ganglion cells in the tubuli I must acknowledge I have never seen them, unless the beaded, or baccuted appearances, to be recognized in all tubuli, more or less distinct, may be regarded as such.

This beaded appearance to my judgment might be imagined to correspond to cell structure throughout the system of tubuli.

As to connective tissue fibres being found in the tubuli, I have no good reason to believe they exist, notwithstanding the writer's views, also those of Francis Ball, of Germany, whose paper I criticised a year or two since, on the same sub-

ject. Now, as then, I must state that I can see no use nature can make of connective tissue fibres in the tubuli, unless she wished to make an idle display of unnecessary complications where no useful object could be obtained.

Cut on page 410 represents terminal fibres at junction of enamel in a ganglion. I am still clearly of the opinion that the writer has in some way been misled in this junction by his chemical process in preparing his specimen, for I am quite sure he could not see them in dentine unacted on by chemical agents.

There is a region, which I have on one occasion designated as *terra incognita*, or unknown land situated between the enamel and dentine, of a granular, undefined strata, just where the tubuli terminate, though generally passing, this region square up to base of enamel, which may be distinctly seen in properly prepared specimens of healthy formed teeth, if not all teeth in fact.

Same page, speaking of the medullary substance, I shall not attempt to discuss, not having given the subject sufficient special attention to do so, presuming at the same time that the writer may be correct in his views on that subject, having received but little attention from other writers.

On page 411 he says, speaking of the terminations of nerves, "If we take the teeth here, we find the nerve fibre passing through into the dentine, towards the enamel and cementum, and in some instances they can be traced entering its substance. As the fibres approach their termination, they draw together, and unite by anastomosis, or rather they enter in a cell or ganglion, but in no instance do they terminate by free extremity." "This formation somewhat confirms the position that all nerve fibres form a complete circuit, for the current of nerve force, whether it be motor or sensor. I am confident they do not end in points or filaments; nerves in teeth have no ends, except as they are continuous with the terminating of another nerve fibre, or as they terminate in what I will call a ganglion cell."

"This termination of nerve fibre in dentine and enamel, this ganglion or cell termination of nerves in teeth, never before demonstrated, now being proved and accepted, we have

now to seek in some form for the cause of excessive sensation in teeth."

Speaking of the fibres of nerves in teeth ending by anastomosis, and that the fact was now proved and demonstrated, and accepted, I must beg to differ widely from the writer, although the idea of anastomosis has been, and is still believed by many able investigators. As before stated, I have satisfactorily, to myself, demonstrated to the contrary which I have already explained. Let observers carefully examine for themselves. We are all, I believe, agreed that only one set of nerve fibres supply the teeth, and as the nerve currents travel in opposite directions, in the opposite sets of nerves we must conclude that the nerves of the teeth, at least, if not others, have no anastomosing circuits, unless we admit the fact that a nerve of the same denomination carries on a double current, which to me seems impossible, as only a sensorial current is carried from the teeth to the brain, and no return or reflex current that we know any thing about. There is no need of any other current. It would be more consistent to imagine a circuit current through the two sets of nerves still the fact remains to be proven, that any such current is sustained by anastomosis of nerve filaments. We know that ligating or separating any nerve, a complete arrestation of function, through such nerve, at once takes place, without in any way interfering with any other nerve function, that might be supposed to anastomose with such divided nerve.

If the nerve function depend upon a complete circuit by anastomosis, the severing of either the efferent or afferent branch, would necessarily so disturb the circuit current as to arrest function in both.

There are cases of paralysis of one set of nerves, and not the other set, running to a part more or less complete; in other instances both sets are more or less completely paralyzed.

These facts to me rather favor the independent nerve fibrillar termination, than that of circuits through anastomosis; at the same time we must admit the fact of a magnetic conducting intermediate *sarcode* everywhere in the body, which may serve as a *vinculum* between the two sets of nerves.

PHOSPHATES.

BY W. H. JACKSON, ANN ARBOR, MICH.

Miss —— presented March, 1872, age 16, bilious temperament, growing fast, not in very good health, desired to have her teeth filled. Upon examination found the molars badly decayed. The enamel on the labial and buccal surfaces of all the teeth, for half the distance from the gums to the cutting and grinding surfaces, was so soft that it could be scraped with the finger nail, also the same action on the lingual and palatal surfaces of the molars and bicuspid, but to a less extent; color, white and chalky. Mucus gave decided acid reaction, as tested by blue litmus. I told her, if the secretions could not be changed, it would be of no use to fill her teeth. The molars were in such a condition that it would not answer to leave them. I declined to commence them, unless she would submit to a course of treatment, and follow it up a long time. She promised to do as I wished.

I then filled five common and one pulp cavity. I prescribed phosphate of lime, gr. ij, to be taken with each morning meal.

At the expiration of a month she presented herself a second time. I found that the disease was going no further. I continued the former prescription; told her to brush her teeth with a soft brush, and just before going to bed to rub a little cretæ precip. around the teeth, and leave it there. Did not see her again until November. Asked her if she had continued taking the phosphate as directed. She said she continued it about six weeks. After I saw her again, when her family physician (Homœopathic) heard of it, and told her she "must not take any more of it, for it would get into her bones," she was somewhat alarmed, and of course stopped taking it, but neglected to inform me. Nevertheless her health as well as her appetite improved, and continued to do so up to the time she called. Found the enamel of the incisors, cuspids, and bicuspid, hard where it had been affected, with a slight dark tinge, as if they had not been properly cleaned, with transverse furrows across them. The mo-

lars still showed a diseased condition, but not near as marked as at first.

At the recommendation of Dr. H. White, he having used the same with good results, I now prescribed Winchester's preparation of Churchill's Hypophosphites of Lime and Soda ; dose, one teaspoonful with each morning meal.

The patient called again in March, 1873. Found teeth much improved ; continued same prescription, it being more agreeable to take, not noticeable when taken in a glass of cold water. Called May 5th, no trace of disease left, except the slight dark tinge and furrows, which show where the disease had been.

Were this the only case I should not take the liberty to place it before you. A single case is not sufficient evidence of the efficacy of any remedy, neither should we recommend a remedy until we first test its value as a remedial agent in a multiplicity of cases.

I have reported this case as one of many, and I hope other practitioners will try this remedy, as I have met with many happy results from its use during the past four years ; not that phosphate of lime is a specific for all vitiated secretions, but that many times teeth can be preserved by its use that would otherwise be lost without it.

GENERAL CAUSES OF DISEASE.

BY DR. WM. CLANDENIN.

Read before the American Public Health Association.

In the enumeration of causes of disease the greatest prominence is given by authors to certain physiological processes—to the establishment and cessation of the functions of certain organs. What a train of childhood's ills is attributed to the evolutions of the primary teeth, and at the age of puberty how many diseases are connected with the catamenial flux, and later in life to its cessation !

INFANT MORTALITY.

It is humiliating to consider the frightful mortality among

children in American cities. One third die in the first year, and one-half before they have attained the fifth anniversary of their birth. This is the more remarkable when taken in connection with the fact that we raise successfully our domestic animals, but fail in rearing our own children.. Where or how shall we seek to discover an explanation of this fact? Are mankind weaker and more fragile than they were once; are they obnoxious to more dangers now than formerly; and have diseases increased in number and severity; or do the requirements of society, the results of our social system, together with the omnipotent behests of custom and fashion, and the various springs put in motion by passion and party spirit, give rise to the constant causes of a more permanent interruption of the sense of well being?

Among the various causes assigned for the great mortality of children, "teething" seems to be the most common. Almost every disease of childhood is regarded by professional men the learned and the ignorant, as being the result of pain produced by the eruption of the milk teeth. "The cutting of the milk teeth," Marshall states, "is, doubtless, in many cases, though *not necessarily*, a painful process." If it is not necessarily a painful process, it is necessary to know when or under what circumstances it becomes so. The primary teeth, according to writers on physiology, begin to appear about the seventh month, and are completed at the expiration of the second year.

The statistics of the several health departments of this and of other countries demonstrate that the great mortality among young children occurs during the first six months, dating from birth, and consequently before the teeth begin to appear. The next highest mortality occurs during the last six months of the first year of life. This statement is fully corroborated by the mortality tables of every European country, as well as those of our own. Such tables prove most conclusively that the death rate among children steadily and perceptibly diminishes from and after the fourth and fifth months: that is, after the time at which the teeth generally begin to appear. For example, there were 7,497 children died in New York during the year 1867, whose ages were less than one year; of this number

891 died during the first week, 884 between the first and fourth week, 945 between the fourth and eighth week, 885 during the third month, 1613 between the third and sixth month, and 2,281 during the remaining six months of the year. In Cincinnati, during the last six years, 9,766 were reported to have died under one year of age; of this number 801 died during the first week, 778 between the first and fourth week, 825 between the fourth and eighth week, 703 during the third month, 1,564 between the third and sixth month, and 2,014 during the last half of the year; showing conclusively that the greatest sacrifice of child's life occurs at a period when dentition could not have sufficiently advanced to produce any injurious impression upon the delicate nervous system of the child.

To what causes, then, may we properly and truthfully ascribe this discrepant mortality? And, what is it that so strongly predisposes the child of three months to diseases which one of as many years would successfully resist or escape altogether? Prof. Chaillie, of New Orleans, states that according to the census returns of 1860, in each thousand of the population of the whole United States there are about 29,07 children under one year of age; and there are about 124,03 in each thousand one year and under five years of age, giving an average for each of the four years of about 31,000 children. In healthy localities the death rate of children under one year of age ought not to exceed one in six; but in some cities of this country it is one to three and a fraction.

Again, we learn from the same authority that the diseases most destructive to life among children under one year of age are the same that, with few exceptions, prove so destructive to life during the succeeding year—viz: Convulsions, congestion, and inflammation of the brain; hydrocephalus, atrophy, and debility; diarrhea, cholera infantum, pneumonia, etc., etc.

TEETHING.

There are certain physiological changes taking place coincident with teething, but in nowise consequent upon it, which may become pathological. During the early period of childhood the food is taken into the mouth by a sucking process; there is neither mastication nor insalivation, properly so-called;

the glands of the stomach and intestines are only sufficiently developed for the digestion of albuminous liquids. Subsequently (and during the period of dentition) the salivary glands enlarge and become active, and hence the cause of the "drooling" so often witnessed, and supposed to be caused by the irritation of dentition; the glands of the stomach and intestinal tube undergo a simultaneous development, necessary for the digestion of starch and oils. During these changes there is an increased flow of blood to these numerous glands, and under favoring conditions diarrhea and other diseases of the bowels and assimilative organs may ensue.

The popular opinion in reference to dentition as a cause of disease, is often productive of evil consequences. It lessens the appreciation of true causes, and diverts attention from them. If a child is taken sick during the period of teething, the parents, deceived by the popular opinion, attribute the child's illness to that cause, and therefore do not look for, or suspect, the possibility of any other. Thus the real cause of the disease is not, perhaps, discovered at all, or not until it is too late to successfully combat the disease.

Among children the sickness and mortality follows the months, and in cities it is generally increased from fifteen to twenty per cent. by the heat of summer. There is, also, perhaps, a slight increase during the winter months, and yet the mortuary tables, compiled with the greatest attainable accuracy, for many years, prove most positively that on the average of years, and, also, in each single, successive year, the mortality is excessive in cities and large towns as compared with the immediate adjacent country districts under the same climatic conditions. Again, the death rate is never uniform throughout all portions of a city. Those parts which are clean, the houses properly constructed and well ventilated, and where the inhabitants have pure water and good food, show moderate bills of mortality, while, on the other hand, those localities in which the streets are narrow and filthy, and where poor people live in cellars or underground rooms, or are crowded together in tenement buildings, erected, perhaps, upon ground made of the sweepings of streets and market

places, and the debris of the city, and where the contents of privies surcharge the porous earth around, the death rate is always much higher, and especially when to these conditions is added high temperature. Wherever these conditions are met with sickness must ensue, and thus not only dentition and other physiological processes incident to growth and development may become abnormal, but if long continued they certainly result in physical deteriorations. Nor can the rich selfishly conclude that they will not be effected by these evils which they allow to scourge the poor.

INFANT'S FOOD.

The hygienic relations of food is a subject that is supposed to be generally understood, and yet nothing in our practical every day life presents so many examples of ignorance, and exhibits such flagrant violations of the laws of health. The history of the Irish famine and pestilence of the years 1846 and 1847 developed the dreadful effects of starvation, and fully demonstrated that the want of food in sufficient quantities to sustain the body is not only a predisposing but actually an exciting cause of disease, and may cause the most terrible epidemics.

The quality and also the adaptation of food to the age and condition of the digestive organs, exercises a powerful influence in the development of disease.

In his treatment of infantile diseases, the medical attendant very seldom inquires further than to assure himself that his little patient is nourished by its mother, disregarding or forgetful of the fact that the secretion of the mammary glands, both in its quantity and quality, is strongly and directly influenced by the nervous system, and especially by emotional states. Sir A. Cooper affirms that "there is evidence that the mammary secretion may acquire an actually poisonous character, under the influence of violent mental excitement." The same writer states that "Fits of anger produce very irritating milk, followed by griping in the infant, with green stools;" also that "Anxiety of mind diminishes the quantity and alters the quality of the milk." "A fretful temper lessens the quality of milk, makes it thin and serous, and causes it to

disturb the child's bowels, producing intestinal fever and much griping." These statements are fully corroborated by other authority.

It is a well known fact that the milk carries with it, to a greater or less degree, the peculiar characteristics of food. Exercise, when excessive, diminishes the quantity of butter, and increases the amount of caseine. What, then, must be the effect upon the child nursed by a mother who is constantly subjected to the harassing and depressing influences of poverty, and its attendant consequences, living, perhaps, in a damp and vitiated atmosphere, upon scanty and unwholesome food?

INHERITED DISEASES.

To these causes must be added the bad constitutions inherited from parents. There are few biologists who dispute the influence of heredity—not only of ancestral peculiarities, but of diseases also. We have sufficient evidence that such a cause does exist, and that it sooner or later in life manifests itself as a depressing influence, and diminishes the power of resistance to disease, and perverts the life processes.

The physician can do little for the inheritors of scrofula, syphilis, and other hereditary diseases, and yet it should be understood that even those thus diseased may outgrow their inherited vices of constitution. Yet, in the language of Maudsley, "Here, as elsewhere in nature, like produces like : and the parent who makes himself a temporary lunatic or idiot by his degrading vice propagates his kind in procreation, and entails on his children the curse of the most hopeless fate."

DOES CIVILIZATION INCREASE THE NUMBER OF DISEASES.

There is a popular opinion, nor confined to the ignorant alone, that as mankind has advanced in a material and intellectual point of view the number of diseases has increased ; that many diseases are the necessary accompaniments of mental development, of arts, and industry ; and that the higher education of youth produces effeminacy, debility, and disease.

Such a view is incorrect, because every onward step in the path of knowledge and true refinement has had a beneficial influence. The sanitary condition of communities improves, *pari passu*, with the education and intelligence of the people

composing it. There are, however, some serious errors connected with and growing out of the manner in which we seek to accomplish the grand purpose of civilization. The principles and plans adopted in most of our schools and colleges is at direct variance with those rules of being and of doing which fulfil all that is needful to bodily health and mental vigor. A uniform standard is adopted by teachers which is usually so high that it is adapted only to the ablest minds, and it has to be attained by the less gifted by undue mental effort. Children are generally classified in schools according to their ages or acquirements at the time of their admission, regardless of their mental capacity or physical state. All the children composing a class are supposed to possess the same vigor and quality of mind, equal powers of application, endurance, and adaptability. Consequently, the powers of the mind of some of the pupils are likely to be overtasked by the constant and severe effort required to keep pace with the curriculum of studies in their classes. From this cause, the brain and nervous system become at first morbidly excitable, but subsequently, if not relieved by rest and relaxation from study, the memory is weakened, and the power of thought and concentration of the mind proportionately diminished. The physical organs promptly sympathizes with, and are speedily brought under the influence of this depressed nervo-mental state, especially when, as is too often the case, large numbers of children are in attendance and kept for so many hours daily in an improperly heated and badly ventilated school building. Both the body and the mind are in this manner very often permanently enfeebled, and nutrition so greatly impaired that growth and development are retarded, perverted, or it may be permanently arrested, and the child is thus doomed to a life of suffering, and perhaps to premature death.

ARE CHANGES IN LIFE DANGEROUS?

The physiological changes which are effected at the period of puberty, and which result in the perfection of the highest physical power of animal life—the power of reproduction, characterized by the awakening of new passions, feelings,

and associations—has always been considered as particularly dangerous to life, or as rendering the individual especially susceptible to disease. There is much that, on a hasty survey, seems to countenance such an opinion ; a more careful examination of the question shows, however, the incorrectness of such conclusions. The influences brought to bear, and the new conditions developed, are apparently different in character and effects, but they operate in a similar manner, and produce the same results as those causes to which reference has already been made, in the causation of children's diseases.

CHILDBIRTH..

The proper recurrence of those phenomena associated with ovulation is regarded as evidence of health and vigor of constitution ; but if these phenomena be not observed, and the health subsequently becomes impaired, their non-appearance is considered as the cause. The preponderance of females over males in the death list (in the census tables) is assigned by physicians to causes having their origin in derangement in the catamenia ; while on the other hand, those causes which derange or delay the catamenia are likely to be overlooked or wholly disregarded. The whole of the child bearing period is almost universally regarded as peculiarly hazardous to life, and yet we have the authority of Dr. Farr to the point that the "child bearing women of a population are, in the language of the insurance officers, 'select lives.' " And Dr. Brinton, another equally high authority, states that, "Apart from a few exceptions, we are bound to remember that all the perils decreed to the female leave her life, as a whole, rather superior to that of the male of corresponding age ; in other words, that the pain and danger of childbirth do not bring about an excess of mortality at all approaching that which results from the greater exposure, toil, and intemperance of the stronger sex." These statements are fully corroborated by the experience of several life insurance companies of this country. According to the last census, after the thirty-fifth year the death rate of the sexes is in favor of

females ; and from fifty-five to sixty nearly one third less women died than men.

CONSUMPTION AMONG WOMEN.

It seems impossible for physicians to divest themselves of the idea that derangements of menstruation do not cause disease. The fact that consumption is always more fatal among females than males, between the ages of fifteen and thirty years, is again and again brought forward as evidence of the evil effects of deranged catamenia. But those who adduce facts in support of this opinion forget that the requirements of society, so often opposed to reason, and the omnipotent behests of custom and fashion are most fully recognized and courted during this period. The consequences of ovulation are excessively annoying to fashionable women, as it so often interferes with their social pleasures and fashionable amusements. To obviate this annoyance, recourse is often had to ablutions of cold water upon the excited organs ; the consequence is that the flow from the surcharged uterus is immediately arrested by the contraction of the vessels. The same result is oftener unintentionally obtained by the unseasonable change of clothing, or improper and insufficient clothing, thin or light shoes. From these causes, so common and so constant, result many of those diseases which are so prejudicial to female health, and which so often end in consumption.

The local evils which so certainly result from the causes cited are multiform and intricate, as every physician knows, and, grave as they may be, they do not end with the individuals, for it has a moral as well as a physical bearing upon the community. Hematocele, for example, one of the local effects of the sudden arrest of the catamenial flow, may be followed by, or result in, adhesions between the intra-pelvic organs and other organs of the abdomen, or its muscular walls, producing flexion of the uterus, and narrowing or obliteration of its canal, and thus becoming a cause of disease of the uterine functions, preventing conception, or if impregnation should take place, the uterus being bound down by the adhesions referred to, its power of expansion is limited

and hence the term of utero-gestation could not be completed, and therefore repeated miscarriages would ensue.

But the most common cause of the excessive death rate among females during the period of greatest activity of the reproductive organs is comprehended in the fact that the greater part of a woman's life is spent in the house or in its immediate surroundings, and hence we look to the condition of the dwelling for the explanation. Thus the mother is subjected to the same conditions—to the same morbid influences—that are mainly instrumental in causing the excessive death rate among young children, viz.: a deteriorated atmosphere, and hemmed in, perhaps, by barriers of filth and want, coupled often with the evils of intemperance. The far-reaching ill effects of these causes fall with immense proportion upon females, and especially upon the poor, the ignorant, and the subordinate. It generally, indeed almost always, falls to the lot of woman to administer to the wants of the sick, and, therefore, she is subjected to the immediate effects of the poisonous exhalations thrown off from the skin and lungs of the diseased; so that when disease is generated in, or imported into, the dwellings of the poor, it causes neglect of cleanliness, and, therefore, the effects are most likely to manifest themselves in the little children and females, the helplessness of the one and the necessities of the other making it impossible for either to escape.

The same conditions produce the same result in males. The report of the Registrar-Generals of England show very conclusively the influence of occupation upon general health and longevity—the death of farmers at the age of 35 to 45 was nine in a thousand, of bakers, fifteen, and of butchers, seventeen. The great mortality among butchers is probably due to the effect of the elements of decaying matter by which they are surrounded in the slaughter house and vicinity. Mr. Lombard exhibits trades in relation to consumption. In 1,000 deaths in each of the different occupations noticed, the following proportions were furnished by this disease:

With vegetable and mineral emanations.....	176
With various dusts.....	145

With sedentary life.....	140
With hot and dry air.....	138
With workshop life.....	127
With stooping posture.....	122
With sudden movement of arms.....	116
With muscular exercise and active life.....	89
With exercise of the voice.....	75
Living in the open air.....	73

And it may be further stated, that the better the condition of life the less liability to consumption. Marc d'Espine has proved that tuberculosis occasions 68 deaths per thousand among the rich and 233 per thousand among the poor.

Proceedings of Societies.

OREGON STATE DENTAL SOCIETY.

The several members of the dental profession throughout Oregon, having long felt the need of a State organization that would permit them to keep pace with and reap the same benefits as their Eastern brethren, met in Portland on March 29th, at 8 P. M., holding their meeting in Dr. Hatch's rooms, and organized a State Dental Society, electing the following officers: President, Dr. J. H. Hatch, Portland; Vice President, Dr. L. S. Skiff, Salem; Corresponding and Recording Secretary, Dr. Wm. F. Thompson; Portland; Treasurer, Dr. J. Welch, Portland.

After the organization was perfected the following persons signed the Constitution and By-Laws, becoming members of the society; Drs. J. H. Hatch, L. S. Skiff, Wm. F. Thompson, John Welch, George H. Chance, T. L. Nicklin, George W. Gray, J. R. Cardwell, and E. Biddle.

The meeting adjourned for refreshments.

After refreshment the society was called to order again, in Drs. Welch and Thompson's rooms, when a very interesting paper was read by Dr. Chance, upon gold-pointed instru-

ments to be used as pluggers ; also, explaining, in his opinion, their superior merit over steel.

After reading of the paper, the subject was taken up and fully discussed by the different members present.

Dr. Chance presented to several members an assortment of his instruments, to be tested by them and reported on at the next regular meeting.

A motion was then made and carried, that the next regular meeting of the Society be held at Dr. Skiff's rooms, Salem, on the last Wednesday in June. The subject for discussion at that meeting will be "Exposed Dental Pulps and their Treatment."

Dr. Gray was also appointed to prepare and read an essay before the Society at that time.

A motion was then made that a clinic be held on Monday, March 31st, at 10 A. M., and to adjourn until that time. Carried.

On motion, the Secretary was instructed to furnish copies of the proceedings for publication in the Daily Press of the city, and also to prepare and forward for publication a copy to the Dental journals.

On motion the Society, adjourned until Monday, at 10 A. M.

MORNING SESSION OF MONDAY.

The Society met pursuant to adjournment, March 31st, at the rooms of Drs. Welch and Thompson, Dr. J. H. Hatch, President, in the chair.

By suggestion of Dr. Thompson the office of Recording Secretary was declared vacant, and Dr. Cardwell elected to fill it for the ensuing year.

On motion, Dr. Thompson was invited to perform the clinic, whereupon the Doctor proceeded to the chair and made a difficult contour filling for Dr. Chance, which was done with superior skill, and much to the satisfaction of the Society. In the operation Dr. Thompson illustrated his manner of using the R. E. Carpenter engine and steel mallet.

On motion the meeting adjourned until 8 o'clock P. M.

EVENING SESSION.

Society met pursuant to adjournment, Dr. Hatch in the chair.

On motion, Drs. Chance, Gray and Thompson were appointed a committee to draft by-laws on the manner of becoming a member of this Society.

Subsequently the committee reported upon the subject, substantially requiring that "any dentist wishing to become a member of this society shall apply in writing, and a favorable vote of three-fourths of the members present shall be necessary to elect to membership.

The report of the committee was adopted.

Dr. Skiff made some remarks upon subject of the professional fees, and asked to hear from the others.

He was followed by Drs. Hatch, Gray, Glenn, Chance, and Cardwell.

The general view seemed to be favorable to first-class work, leaving the matter of fees as a secondary consideration, in order that an operator, when he went to the chair, should not be influenced by the class of the operation in consequence of preconceived ideas respecting the compensation.

We should aim to have it distinctly understood by the patients, as well as by the members of this Society, that the prime object is the mutual advantage and benefit of all concerned.

Dr. Chance moved that the thanks of the Oregon State Dental Association should be hereby tendered to Drs. Welch and Thompson and Hatch for the use of rooms and other courtesies extended.

On motion of Dr. Gray, Drs. Hatch and Thompson were invited to operate in clinic at Dr. Skiff's office at the next meeting, to be held in Salem on the last Wednesday of June, 1873.

On motion the Association adjourned.

WM. F. THOMPSON, Secretary.

THE STATE DENTAL ASSOCIATION OF KANSAS.

The second annual convention of the State Dental Association was held at Laurence, on the 6th, 7th, and 8th of May.

The Association met at 2 P. M., May 6th, in the parlors of the Elridge House, and was called to order by J. B. Wheeler, President of the Association.

Dr. L. C. Wasson, of Ottawa ; C. H. Reeder, of Burlingame ; Geo. C. Holmes, of Laurence, and H. T. Wilson, of Parsons, were elected to active membership.

The following officers were elected for the ensuing year :

President—Dr. W. F. Griswold, of Leavenworth ; Vice President—Dr. J. D. Patterson, of Laurence ; Recording Secretary—A. H. Thompson, of Topeka ; Corresponding Secretary—L. C. Wasson, of Ottawa, Treasurer ;—A. Doud, of Olathe.

The following Standing Committees were appointed for the ensuing year.

Executive Committee—Drs. A. M. Callaghan, C. H. Rudder and Geo. C. Holmes ; Committee on Membership—Drs. G. H. Dubois, J. R. Boyd and A. Doud ; Operative Dentistry—J. B. Wheeler, J. D. Patterson and L. C. Wasson ; Mechanical Dentistry—Drs. A. H. Thompson, A. C. McNary and S. O. Freman ; Publication and Literature—A. H. Thompson, J. B. Wheeler, J. D. Patterson and L. C. Wasson.

Drs. T. F. Griswold and J. B. Wheeler were elected delegates to the American Dental Association.

After which the Society listened to the reading of several very interesting essays, which were followed by discussions in which nearly all took a part.

After spending three days very profitably to all we hope, the Association adjourned to meet at Ottawa, on the first Tuesday in October next.

A. H. THOMPSON,

Recording Secretary.

CONSERVATIVE TREATMENT OF EXPOSED OR DISEASED PULPS.

This was the 6th subject on the programme for discussion before the Mississippi Valley Dental Association.

Dr. Hunt opened the discussion. He said there were two kinds of exposed nerves,—accidental which required very careful treatment, and those exposed for some time, which were of difficult and doubtful treatment.

The first, he would cap and fill at once. The second, he should endeavor to allay the irritation and then cap for a filling, to see if the irritation was allayed. His experience was that a remnant of a nerve is hard to save, but in the main he believes in trying to save. Sometimes it was successful. For capping he used stiptic colloid and oxyde chloride of zinc. To allay irritation he used carbolic acid. If bleeding took place he used full strength and dried out the excess but did not object to a little remaining in. It produced a scab, so to speak, and was soothing to the nerve.

Dr. Rawls took issue with Dr. Hunt on the carbolic acid treatment. He held that it had no properties for allaying inflammation. It simply charred he thought and had no restorative property whatever. When he found the pulps gone so far as to block up the corpuscles, he depleted.

Exposures by accident required no treatment but simply protection.

If inflammation was extensive he advised something milder than carbolic acid, carbolate of glycerine for instance, so as to give nature a chance to recuperate.

Dr. Hunt called Prof. Eames to give his experience with a new remedy for diseased pulps. Prof. Eames responded by a statement about the use of pepsin. He said some claimed success with it by cutting off the diseased part—digesting it away in fact by the use of pepsin. The pepsin was dissolved in water and applied, thus leaving the nerve clean and ready for capping. He had some experience with the new agent and commended its use.

Dr. Frank A. Hunter observed that some of the remarks about oxyde-chloride zinc were plausible but as far as his

experience went he found that it would kill nerves. Dr. Knapp stated that he saved ninety-four per cent of his cases. He preferred creasote on the whole, to all other remedies. He saved irritable pulps by waiting till they hurt right bad and then lifting them out.

He found he could not apply oxy-chloride of zinc without hurting. Some pulps would die no matter what the treatment. He closed up with cotton and varnish and sometimes with white wax. It did not make much difference. Exposed pulps could be saved, generally speaking, but if some thought otherwise they had better look to themselves and see if the fault was not with them. He believed the periosteum nourishes the bone and fills up with a new formation. This is often seen under the protection of a little decay that has not been removed and why not under the protection we put there ?

Dr. James Taylor observed that after a practice of thirty odd years, the subject troubled him and he expected it always would.

He knew, to be sure, that there are nerves saved just as a scratch on the hand heals by the first intent, because inflammation does not intervene.

A patient of eighteen years of age has twice the quantity of pulp of one of sixty years of age. As a general thing he did not think applications could be relied upon. What takes place? The dead matter sloughs off and it must be got rid of. He did not want any dead matter between the pulp and the plug; he preferred to lay the gold direct upon the pulp. There was no covering so good as nature's.

He used glycerine to arrest decomposition of the lamina of softened dentine, until nature recuperated.

Nerves are frequently exposed by grinding down of the teeth. The nerves are irritated and nature rushes in to cover them up.

He did not wait until the diseased bone is hardened before filling, and he was satisfied that it was not good practice to cut down to the exposed nerve, but treat the softened dentine and use that as capping.

He had no faith in Oxy-Chloride Zinc, once the nerve is

laid bare. Dr. Atkinson claims to make new bone and all that, but Dr. Taylor thought that in two or three years he would find the nerves dead.

He thought failures should be related as much or all the same as successes, for he had seen them following the best operators in the country. He did not believe in discouraging success however, for one in five even to be saved, is an object.

Dr. Rehwinkel considered it a duty to save every nerve possible to be saved. The question with him, however, was to separate the favorable from the unfavorable cases.

If the nerve is inflamed he would not use Escharotics there more than on a boil. To put Chloride-zinc on an exposed nerve would kill it nineteen times out of twenty, but it kills it slowly by drying it up, and because it does this without pain we think it is not done. Yet, on the other hand it has properties which commend it to our use. It is good to mummify the nerve and fill up the vacuum. For extirpating nerves he had faith in pepsin. It was sometimes competent to use arsenic to devitalized pulps. He used very little and left it in twenty-four hours. At the second or third visit he widened the cavity to allow the escape of gas, and, if possible, entangle with the nerve and drew it out, which, if successfully performed, afforded the satisfaction of knowing that there was no dead tissue left. He then kept up an application of iodine to the process until the cavity was left perfectly clean, and the tooth would bear a tap with the hammer.

He made a point of getting rid of all dead tissue, but where the roots are tortuous and difficult he would use Chloride of Zinc.

Dr. Frank A. Hunter desired to know if success depended upon locality or change of climate.

Dr. S. B. Brown said his part of the country was malarious, yet he was successful in saving nerves. In three years observation he found that where pulps were inflamed the use of a poultice of oxide of zinc and creosote were efficacious. He was confident that his successes were ninety-nine per cent.

Dr. Berry observed that Dr. Watt had affirmed that Oxychloride of Zinc would kill every nerve.

Dr. Clancy here read a brief paper.

Dr. Bradley thought application of oxy-chloride of zinc to the pulps wrong. He first stopped pain with acetate of lead, then made a fine paste of oil of cloves, peppermint, rosemary, creosote and morphine, with which he covered the nerve carefully and pressed out the excess with a piece of spunk. If the nerve is very tender he put on a thick coat, and then applied the oxy-chloride of zinc. If there was very much pain he usually sent the patient away. He only lost three nerves in seventy-five since last fall. In cases of sore teeth he used the paste and carbolic acid, then filled with Hill's Stopping.

Discussion closed.

ARTIFICIAL DENTISTRY.

BY FRANK A. HUNTER.

Should it be practiced as a speciality? What may be done to raise the standard of operations in this department?

On the subject now open for discussion I propose making only a few remarks in order to "start the ball rolling," then leaving to older and more experienced hands the pleasure of "keeping it going."

Artificial Dentistry—Artificial—contrived with skill or art. Dentistry—the art or practice of a dentist. Therefore Artificial Dentistry comprises *almost* the entire occupation of a dentist. I will however confine myself to the general acceptance of the term by the profession.

In the latter part of the 18th century the first porcelain teeth were made, but were not in general use for a considerable time thereafter; for in those days it was the custom to carve artificial teeth from bone, ivory, or the tooth of the hippopotamus, and in some cases setting human or sheep's teeth on a base of ivory.

Early in the 19th century, gold, silver, and platinum, were used as a base, with porcelain teeth rivited on, and later, moulded teeth with pins were introduced, and from that time improvement became the order of the day. Between 1845 and 1850 continuous gum work was introduced in an im-

proved form, and was readily adopted by the advanced men of the profession ; and between that time and 1860 I venture to say, without fear of contradiction, that there was *more artistic* work made than ever before or since.

During that period you never heard the question asked, "Should it be practiced as a specialty?" And why? because men of acknowledged ability were not ashamed to do artificial work, as it requires as much, if not more skill and ingenuity, to construct an *artistic* set of teeth, than is generally employed in the operation of filling a tooth.

In 1858-59 rubber was introduced by the American Hard Rubber Co., as a base for artificial teeth, but its use did not become general until about 1860-61, then artistic dentistry received almost a fatal blow—then the gate was opened for men with a low order of talent to enter the profession, and by their competition endeavor to drive the accomplished dentist from one branch of his profession.

From its introduction to the present day it has been constantly on the increase, and now there are at least one hundred sets of teeth made on rubber to one on any other base. Why? Because it is cheap. Why do the dentist's make it? Because it is easy—because it requires little skill, and can be made for a small amount of money.

What artistic skill is displayed in the construction of a set of teeth on rubber, with moulded blocks? Absolutely none.

A man who can not, or does not make artificial teeth on any other base than rubber is not worthy the name of dentist.

I do not take the extreme stand that some do, and say that rubber is not a fit thing for the mouth in any case, but I do say that there are very few cases where almost anything else would not be better—a partial set of teeth on rubber is execrable.

Should it be practiced as a specialty? Certainly—rubber work.

What may be done to raise the standard of operations in this department?

In the first place discard rubber and all bases on which we use block teeth.

Inform your patients, for in many cases it is for want of knowledge that they accept the worst for the best.

Let those that *used* to know how, return to their duty, and make for permanent cases gold or platina work—and let those that don't know how learn.

The cry of the majority of the people is still for rubber, but there is a minority that may be increased, who appreciate, and are willing to pay for first-class artificial dentistry if the facts are properly presented to them.

MERCURIUS VIVUS.

H. L. AMBLER, D. D. S., M. D.

A continuation of an article in the January No. of the Register.

Symptoms for the administraton of Mercurius vivus: Tearing, shooting pains in whole side of face and head; teeth are loose and feel to long; generally worse at night in a warm bed worse after exposure to damp or cold air; submaxillary glands are swollen; gums swollen, sensitive, and bleed readily. In neuralgia we have darting, tearing pains on one side, from the temples to the teeth; profuse saliva and perspiration without relief; pain removed by eating, and taking hot or cold substances into the mouth; tongue moist with thick, white coating; sleeplessness; pain may be seated, but frequently shifts from one portion to another of the affected nerve. Dose and repetition should be determined according to the case; from the third to sixth potency in acute, and eighteenth to thirtieth in chronic cases. Some are quite susceptible to its influence; while others are comparatively insensible to medicinal influence, showing neither marked action nor reaction and require low potencies and frequent doses. Generally those where the lymphatic temperament predominates require a dose of one grain once or twice an hour until relieved. Those of highly developed mental organizations are more susceptible to the *action* than reflex action of remedies; thus a higher potency would generally be admissable; but where reaction is well marked, too frequent repetition of dose must be guarded against; also where we have marked *action* and

reaction we must be guided by other conditions of the case as to potency and frequency of dose. Those of a bilious temperament are not very receptive to medicinal influence, but reaction being once aroused, it will be powerful and somewhat long ; in such cases use the low potencies, and at long intervals. Females generally possess a higher degree of susceptibility than males, thus permitting us to use a high potency, or if a low one at long intervals, about three or five hours ; but with them modifying circumstances must be taken into consideration, such as pregnancy, laborious employment, etc. Medicinal influence is more marked upon those living in the country of simple regular habits, where they are not disposed to any regular peculiar dyscrasia, than in towns, and particularly crowded cities, where habits are more artificial, as here the action is more difficult to arouse. The different temperaments of which we have spoken are often found mixed, and habits, modes of living, peculiar idiosyncracies of patients, must not be overlooked in our treatment if we derive the quickest and most favorable results. Do not imagine because you have given a small dose, and your patient improves, that you must hasten and give a larger one ; but in the administration of this remedy, if there is no amelioration after using from two to four hours, the frequency of the dose may be desirable ; sometimes it is best to cease administration as long as improvement continues, but upon the slightest morbid activity reappearing, to again have recourse to the remedy.

In the long continued exhibition of a remedy the system may become less susceptible to its influence than formerly, then it would be wise to change the potency, or use a remedy similar to the one before used ; but should decided improvement follow each dose, then the intervals should be lengthened, thus giving the system a chance to be itself again, leaving the medicinal susceptibility unimpaired until a cure is completed. The remedial properties of this remedy are facts upon which our method of cure is founded ; it controls the formative or crystalizing process of the cell, reaches the center, and changes it by specific action, as it has greater af-

finiteness for the disease than the disease has for the parts implicated. These principles are open to the knowledge of all, and being put to the test of daily observation by different ones, there must necessarily be truth in them, otherwise arguments and facts to overthrow them would speedily be brought forward. We have seen much of the mercurius on sale, put up in paste-board boxes; this should not be done as in time it loses its efficiency.

The true dental surgeon never imagines himself perfect in all departments, but welcomes professional light, and displays an interest, from whatever source it may come; nor is he so contracted in mind as to suppose that the arts and sciences which his ancestors practiced were so near perfection that all remaining for him is to follow their directions, and not exercise his own industry or skill trying to improve. Let Onward be the watchword inscribed on humanity's banner as it is borne upon the breeze which cheers on this ever varying life; progress, is God's eternal law. Let not the traditions of past ages, but the noble and exalted hopes of the future stimulate us to greater exertion; being banded together for the one purpose of redeeming suffering fellow creatures from the genius of barbarous treatment; with light and love for our calling, we may be guided to an exalted manhood.

ABRASION—A CASE.

BY W. H. JACKSON.

Mrs. W——, in the spring of 1870 came in to have her teeth examined. I found them the most perfect set of teeth I ever saw, each tooth occupying its proper position, well developed, cusps full and round, and to all appearances in the most perfect state of health. I remarked to her that I wished every one had as perfect teeth as she.

See Fig. 1 in the plate. The cusps and points of enamel are all perfect. The cutting edges of the incisors are sharp and sustain their normal relation to each other.

Last March, 1873 she called again. Upon examination I found the cutting and grinding surfaces of the superior teeth extensively abraded having the appearance of having been

held upon a flat-stone and ground until the cusps were all gone, leaving no enamel upon the articulating surfaces. The enamel on labial surface of the superior central incisors is extremely thin, the left superior lateral incisor has lost three-fourths its enamel reaching to the cutting edge and the left superior cuspid one half, is much hollowed; the left bicuspid, right lateral incisor, cuspid and bicuspid all have lost a small portion of the enamel on the labial surface, and it is only upon close observation that the dividing line between the enamel and dentine is discovered.

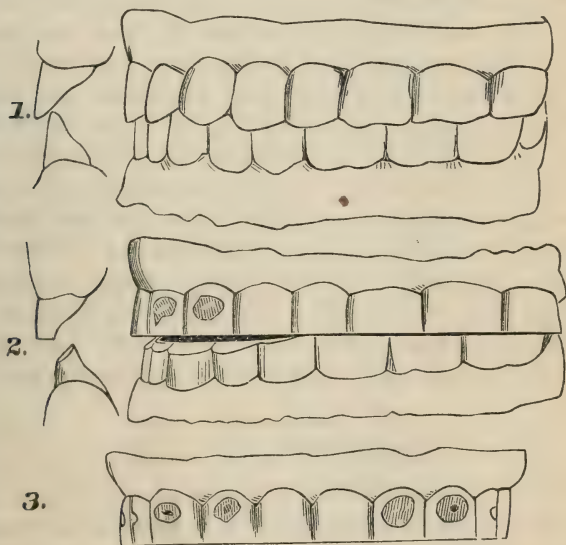


Fig. 2. represents the teeth as abraded during the period of two years ending March, 1873.

The incisors, cuspid and first bicuspid are beveled at an angle of 45° from the lingual surface downwards and outwards, all being beveled alike with smooth polished surfaces, the inferior second bicuspid and molars have smooth flat articulating surface like their superior antagonists. It is impossible to bring the front-teeth in contact, as far back as the bicuspid, hence it is impossible to account for it by mechanical abasion. Patient's age, 38; married, no children, lymphatic

temperament, has enjoyed and is now in good health, gums light pink, hard, no tendency to sponginess, no dyspepsia, bowels regular. Teeth a little more than medium white, with yellowish tinge, enamel of medium density, dentine the same, have not tested for acid in secretions, but shall at first opportunity. Would like to hear from others as to treatment in such a case.

OPERATING CHAIRS.

BY H. SCOTT.

EDITOR REGISTER.—I wish to say something about operating chairs, to dentists and chair makers through the REGISTER. I will be brief, but I hope others will concur with me in the suggestions I have to make. I refer to no particular chair; but I have to say once for all, that I have never yet seen a chair that meets all the requirements, either of the operator or the patient; and this seems the more strange to me, because the imperfections I have to complain of would be so easily corrected to make chairs exactly what we want.

The back, from the head rest down to the seat at its lowest depression, ought to be as concave, or more so, than most of them are convex. No patient ever did, or ever will sit easily on a chair with a convex back. I suppose that operators generally have uniformly experienced the very annoyances I have myself viz, the patient is in position, and manipulations commenced, and very soon it is found necessary to request the patient in a polite way to sit back in the chair. The reason for this request is, that the sitter has slid forward instinctively to relieve himself or herself from an uneasiness occasioned by the prominence of the upholstering pressing upon the spine, while the neck has to be strained in reaching the rest. And this continues to bear all the same, whether the position of the chair be upright or thrown back. But almost everybody will say "why, every person has a hollow in the small of the back, and the chair ought to be made to fit it." Exactly the reverse of this is true in

fact, as any one will easily satisfy himself by sitting down in an old fashioned rocking chair, the back of which is considerably concave ; or by sitting upright in any dentists chair and trying to get the head back squarely on the rest. I have always been annoyed by having to request my patients to sit back in the chair ; or by bending myself down to meet their awkward position. This has been my experience. I have recently employed a workman to alter my chair, (Archers,) but we were unable to bring it to what it ought to be.

The head rest should be one-half longer than usual, and only slightly concave, but never rimmed round, as Archer's are. The ridge like rim made by raising the upholstery round the borders, is a monstrosity, as patients heads are half the time, in spite of all the care that can be taken, resting on either the lower or the upper ridge. I could say more that I think would be right to say, but will not at present.

I have submitted these remarks respectfully, and in good faith, as the culmination of careful attention to the matter, and I cannot believe that others will differ much with me.

THE MALLET.

BY S. E. GOE.

What has become of the mallet ? Our dental journals are certainly very reticent on the subject. Dental associations no longer put it into their lists of subjects for discussion, obscure country practitioners who stay at home might easily suppose the instrument had been dropped and was no longer in use. After its introduction as a means of applying force for condensing gold into cavities of decay, it was much talked about by leading members of the profession everywhere, it was a constant topic of discussion in dental societies, and headed articles in nearly every issue of the den-

tal journals. Has the subject been exhausted, or has the mallet yielded up all its secrets to professional investigation?

I think not, and would like to see the subject opened once more to free discussion. It is highly probable that the period of silence on this topic through which we are passing, may have witnessed the development of new methods of applying this instrument, the discovery of new material for its construction, and an accumulation of valuable suggestions as to its use. If these could be opened up to the profession it is not unlikely that our later experience would show that progress has been made; and it might bring forth new and entirely unexpected results.

Since it is only by thorough investigation and the exchange of views that the profession is elevated, it is or should be the duty of every member in it to do what he can in that direction. In pursuance of the above thought I propose giving in as few words as possible, what seems to me to be the best shape, size, and materials for constructing the mallet and the best methods of using it.

The shape of the mallet should be cylindrical. Its length being greater than its diameter. There is an object in giving the instrument this shape, as there is greater uniformity of force given to the blow in consequence of its striking the plugging instrument at a point nearer the center of the weight. There is a nice point to be observed, too, in shaping the handle of the mallet. This should be flattened, its flatness surfaces being parallel with the longitudinal axis of mallet. It can there be held firmly in the hand without turning. This is a point worth observing especially if the operator is using the mallet himself. He is enabled to determine whether or not the instrument is in the proper position without taking the eyes from the point of the instrument in the cavity.

The size of the mallet should be determined by the weight desired. There is diversity of opinion in regard to what the weight should be. Some practitioners advise the use of a mallet weighing sixteen ounces, whilst others regard a mallet

weighing four ounces as sufficiently heavy. So far as my experience teaches me, a mallet weighing seven or eight ounces will give the best results; yet there may be cases where a lighter mallet may be used with good effect; one and three-eighths inches in length by one and one-eighth in diameter would be the dimensions of a mallet weighing eight ounces, if made of lead.

As to the material for constructing mallets, lead undoubtedly possesses more advantages than any other. Almost every available substance has been tested, but nothing has superceded lead. The method of constructing a lead mallet is quite simple. We have only to make a band of German silver (or any substance that will admit of being worked in that manner), pour melted lead into it, drill a hole with an ordinary beveled point drill for the reception of the handle, and the mallet is made. The handle may be shaped and fastened in without trouble.

A favorite method of using the mallet with many, is to take it in their own hand,—in all cases that will admit of it. It requires but little practice to learn to handle both the mallet and the instrument, and it is certainly a very satisfactory way of using it. The operator is enabled to use it with greater accuracy than it is possible for any assistant to acquire. But it is sometimes necessary to have an assistant to use the mallet. Then we come to another important consideration. What are the requirements of a malleter? Too much care and judgment cannot be exercised in selecting a malleter. The assistant while malleting should not be looking out of the window or at objects about the room, and paying little attention to the part of the work he is to perform, as it is the case with many.

The malleter must be a person of quick perception, one who can interpret signs made by the operator instinctively. A sluggish, awkward person should never stand beside the patient, oftentimes rapidity of action as well as delicacy of movement is required of the assistant.

The assistant should be neat and tidy about his person and of good manners. It is very annoying to most patients

to have the malleter looking down their throats whilst they are malleting, this they should be made to understand. Some patients object to having a third person about at all, whilst they are in the chair, therefore it is important that the malleter know how to avoid offending sensitive persons.

It is essential to etiquette in the assistant not to sneeze or cough while beside the patient. If this is necessary they should retire for the time being !

These last few hints may not bear directly upon the use of the mallet, yet they are so closely allied to it that they are worthy of mention in this connection.

I have not thought of treating the subject of using the mallet exhaustively, or giving all directions to the assistant. Much more might be said. I would be glad to have some one come out with a series of articles on the subject. They would not only be instructive but might start others to think ing over the matter, and a great deal might be done towards perfecting the mallet and the methods of its application.

The general behavior of the assistant, making unpleasant remarks, looking into the mouth of the patient and speaking at the same time, shocking the olfactories of the patient with a bad breath are subjects that might be treated more fully than has been done in this paper.

A writer has said that the summit of human happiness was the possession of a good digestion. Trollope says that the possession of good digestion is to be in Paradise. That being the case, a person with offensive teeth is beyond the pale of Paradise, and the growth of good dentistry heralds the millennial day.

F.

Editorial.

DIAGNOSIS.

II.

I have hinted at some of the difficulties to be met with in tracing symptoms to their causes in a former number of this journal. Before developing the differential diagnosis of special affections, it seems proper to offer a word on the sympathetic relations of the different parts of the organism.

The intricacy and obscurity of the numerous cross-lines of sympathy, which bind together the parts and functions of the body, declaring themselves with especial emphasis during disease, often prove very embarrassing to the practitioner, and sometimes constitute his principal hindrance to a correct diagnosis. The files of our dental journals contain numerous illustrative cases.

The direct response which the teeth make, to changes in the blood and to states of nutrition, and the reverse action by which causes at work in the teeth, produce serious and startling, often intensely damaging effects, upon the blood, and other parts, are so obvious as scarcely to require mention.

If causes are set in motion in the nervous system, sympathetic action spreads, and not unfrequently falls into channels of communication leading to the dental organs, from which reflected waves of influence beat back upon the general system.

The mixed character of these effects, and the embarrassment which the practitioner who does not understand the sympathetic relations of the parts of the body, must meet with in attempting a diagnosis, serve to impress their importance.

In diagnosing a case it should be remembered that the animal body is an organic unit, whose parts are mutually dependent, and that by consequence disease in any one organ is liable to introduce morbid action into any other, or even many others. As an insignificant atom of dust may disturb the motions of every wheel in a watch, so a morbid agent intro-

duced at any point in the organism, may seriously disturb or entirely arrest action in the entire machinery of the animal body.

It should now be called to mind that diseased action is transmitted through certain channels more readily than through others ; that it is obedient to laws of sympathy and susceptibility on the part of organs to which it is transmitted ; and that slight and transient causes may divert it to unaccustomed channels, and to unusual tissues and organs.

In diagnosing a case it is necessary to know something of these relations and their causes ; otherwise I know not how we shall be able to trace the usually obvious symptoms to their often entirely obscure pathological causes, and form in the mind an accurate picture of the extent, location, and character of the disease.

In some instances the symptom brings with it the evidence of its distant origin, and the path backward may be easily traced. But more often the dependence of the part which makes the outcry and contains the only visible sign of disease, upon some other and undeclared territory of morbid action, is quite hidden. Neither our own nor the patient's senses can point it out to us. It is only to be approached by a consecutive chain of reasoning, on the basis of the laws of sympathy and relation between the parts of the animal body.

And no matter how well we are armed with a knowledge of these laws, we will often meet with the most embarrassing difficulties. The clue which we have been following by a careful logic, backward to the source of trouble, sometimes ends suddenly in a tract, entirely barren of evidence. It is obvious that he who best understands physiological and pathological phenomena, and can most skilfully trace their relations, will be best prepared to make a difficult diagnosis.

It is worthy of remark that while much has been written in a careless away about the sympathies of organs and parts with each other, but little has been done toward tracing the laws of this sympathy ; until this is done our efforts at diagnosis must often be blind and misdirected.

We have illustrative cases on record. Our case-books and

journals are full of cases indicating special extraordinary sympathies of the teeth and associate parts, with distant organic functions, and pathological conditions.

In this way the eye, the ear, the scalp, the neck, shoulders the stomach, liver, spinal cord, the limbs along with the functions of fœcal excretion, menstruation, gestation, and lactation, have been pointed out as sympathising at times with conditions of the teeth; while epilepsy, diseases of the antrum, hysteria trismus, uterine affections, and several important nervous diseases, have been shown to possess unmistakable connections with their pathological states.

But for the most part the cases on which these deductions rest have not been carefully studied and recorded. Their history has been imperfectly given; the general state of health in the patients has received little attention; diathesis has been largely ignored; and many facts which it would be exceedingly desirable to know have been omitted.

I have in my mind some admirable exceptions, but they are rare in the extreme. It is evident that before we can have any very complete developement of those special forms of pathological sympathy, which must in part constitute the basis of diagnosis in our profession, we must learn how to observe and record cases.

Those already recorded are highly valuable, but might have been much more so. They have pointed out to us special sympathies, and in many instances have furnished hints toward general laws of sympathetic action. What important conclusions may be drawn from a careful classification and comparison of these materials remains to be seen. It is evident that the attainment of general principles must be facilitated by whatever of accurate observation the future may record for us.

In this article I have only aimed to throw out a few hints to put the young practitioner upon the right method of diagnosis. Any accurate statement of the laws of that immensely complicated and intricate web-work, which makes up the sympathetic relationship of tissues, organs and functions, belongs of course to the differential diagnosis of special diseases, and would be best made in connection with the phenomena of each.

The Microscope and Microscopic Technology; by Dr. Hendrich Frey; translated by Geo. R. Cutter, M. D., from the fourth and last German edition. Wm. Wood & Co., N. Y., 1872.

Since the republication in this country in 1868; of Beale's "How to work the Microscope," no book has appeared which is likely to prove so useful to the student of microscopy as this.

It is a volume of six hundred and fourteen pages, abundantly illustrated with well executed engravings, and done in a style of typography which is excellent.

The mechanism of the microscope and the use of its parts, with the most essential optical principles on which its powers depend, are clearly explained in the first 106 pages. This is done briefly and in general terms, but with sufficient completeness for the student. An exhaustive discussion of technology which would only confuse the student, is left for larger works, designed for professionals; it being more the design of this volume to familiarize the learner with methods of manipulation and the preparation and mounting of specimens; and, while making him a practical microscopist, to give him some special training in the investigation of the various normal and abnormal tissues and fluids of the body.

This last is indeed a special feature of the work. It deals less with the mineral and vegetable kingdoms and carries its investigations largely into the domain of animal life, giving 386 pages to the study of human tissues. There are chapters on "Blood, Lymph, Chyle, Mucus and Pus; on Epithelium, Nails and Hair;" on "Connective Tissue and Cartilage;" on "Muscles and Nerves;" on the "Respiratory Organs," etc., etc.

It is therefore fitted to serve as a Manual of Histology for the student or physician.

Valuable observations on methods of manipulation and minute directions for the preparation and examination of the different tissues are scattered through every chapter; so that, while the work of drilling the student in manipulation is constantly kept in view, his knowledge of histology is very much advanced. It gives an excellent preparation for the more elaborate and exhaustive volume of Dr. Strieker.

A Manual of Histology by Prof. Stricker, of Vienna, Austria, in co-operation with Thomas Meynert, F. Van Recklinghausen, Max Shultze, W. Waldeyer and others. Translated by Henry Power of London, and eight others of New York and Boston, with 431 illustrations. New York : William Wood & Co., 27 Great Jones street, 1872.

In this large volume of 1100 pages, we have by far the most important survey of histological science that has ever been published. And in saying this we do not in the least detract from the lofty honors of Kolliker. Prof. Stricker stands in the front rank of histologists. He has brought to his assistance a corps of specialists and experts whose investigations have been most extensive and profound in the departments to which they have devoted themselves.

The following are a few of the chapters with names of their authors :

General Methods of Investigation. by S. Stricker.

General Character of Cells, by S. Stricker.

The General Structure of the Nervous System, by Max Shultze.

The Heart, by F. Schmeiger Seidel.

The Blood Vessels, by C. J. Ekerth.

The Lymphatic System, by F. Van Recklinghausen.

The Spleen, by Wilhelm Muller.

The Salivary Glands, by E. F. W. Pfluger.

Structure and development of Teeth, by W. Waldeyer.

Intestinal Canal, by C. Taldt.

The Testicle, by Van La Voulte St. George.

And thus the topics run through about fifty chapters and until all the tissues and secretions have been carefully examined.

Here is a manual which is not, like too many of our text books, made up of ill-chosen selections by a hired compiler. It has united in its pages a constellation of the brightest names in histology. Prof. Stricker has brought their labors into one volume, and into such relation as to make them cover the entire range of human histology.

There is no second-hand knowledge. The papers are all original and replete with the freshest observation. The works of the different writers, in fact, take the character of Monographs, and have been neither clipped nor retouched.

With all its merits the work has some defects. But one

can hardly have a heart to draw attention to them in presence of so much excellence.

We could wish that Prof. Stricker in his introduction had given some account of the general routine of histological work instead of filling the whole space with a description of some special late methods. That the student can find the general routine of work in smaller books is hardly an excuse, since it is precisely in this complete work that we ought to find it.

The two chapters on the character of cells are perhaps unequaled by anything in the English language. And the same may be said of Max Shultze's exposition of the minute structure of the nervous system. It is admirable in both its matter and form, beyond criticism.

The paper by Ludwig on the Kidney is an artistic revelation of the structure of this organ.

Meynert's paper has wandered a little from the problems of histology to demonstrate the connection of all parts of the brain with each other. On a cursory examination, it is not easy to determine whether the embarrassing obscurities to be met with in this paper are due to the intricacies of the subject, or to a defective method of treatment.

But it is impossible in short space to criticise or even mention each of these generally admirable and exhaustive papers. The work, as it should be, could only be reviewed by an editorial corps of experts almost as large as that of the body of specialists who have produced it.

As a manual for the student of histology it is now the indispensable text book. Each subject being treated by a special investigation in that department, the work not only presents the science of histology in its full and rounded proportion, but it presents nearly all that is at this time known of the science.

We can heartily recommend this truly admirable manual to every student of human histology.

PERSONAL.

Dr. H. L. Ambler, of Cleveland, a graduate of the Ohio Dental College started on an European trip June 1st inst. He will have a grand old time. We have a little fear that he may find inducements—professional that may prompt his return for sometime at least.

While we are most happy to be represented by such men as Dr. A., we can't afford to lose them from this country, but if they will go, we think that men will be raised up to take their places here.

REMOVAL.

Dr. E. M. Morrison of Noblesville Ind. has removed to Des Moines Ind. Dr. Morrison for many years has been one of *the* men of the Dental profession in Indiana, and his removal will be quite a loss, not only to those who have been accustomed to avail themselves of his skill, but to the profession as well. He has been an active and prominent member of the Indiana State Dental Society from its organization.

DENTAL.

A NEW COLLEGE.

We have received the announcement of the Maryland Dental College of Baltimore City, which is to hold its first annual session, October 1st, 1873. Already, we have nine dental colleges in the United States, and with the opening of this one we shall have ten.

The course of instruction includes both Didactic and Clinical lectures from a corps of professors who are with one exception, engaged in the actual practice of Dentistry.

It is mentioned in the amendment that graduates of this institution will be received as second course student at the Washington University of Medicine.

All information may be obtained of the Dean R. R. Winder.

No. 128 West Madison street.

Baltimore Md.

DON'T ANÆSTHETIZE A FEMALE WITHOUT A WITNESS.

About twenty years ago, a dentist of Philadelphia was convicted of a foul crime, on the testimony of a female to whom he had administered chloroform for a dental operation. He was sentenced to a long term of imprisonment, and though subsequently pardoned, it was not till an incurable pulmonary disease had been developed by his confinement. There were serious questions as to his guilt, and we believe the opinion finally prevailed that the charge was unjust, and that the woman was the subject of a delusion, arising from the action of the anæsthetic on her brain. Recently, a similiar accusation has been brought against a dentist in England, and he has been held to bail for trial, on the testimony of the woman concerned, unconfirmed by other evidence. The occurrence of these, and other instances of similiar character, displays the impropriety of giving anesthetics to a female, under any circumstances, without the presence of a witness. This should be a settled rule of action, both by dentists and physicians. *Ex.*

A TALE OF A NOSE.

The readers of our surgical works are doubtless familiar with those cases in which the nose is reported, after having been cut off, to have successfully replaced—in one instance, after a dog had run away with it. An interesting example of the reparative power of nature in such an injury, is recorded in last week's *Wiener Medizin, Wochenschr.* by Dr. Malfatti. On November 13, 1871, Lieutenant Preiser, while in barracks, had his nose cut off by a sabre. The wound passed through the middle of the cartilaginous part of the bridge of the nose, dividing the left alæ along its posterior third, the septum through its middle, and the left ala two lines behind the anterior angle of the nostril. The piece cut off was taken up from the ground where it lay, cleaned with cold water, and reapplied, being secured in its place by means of sutures. A week after the injury, a dry scab began to form on the left alæ, and extended in the course of three days over nearly the whole nose. Granulations gradually formed, healing went on steadily, and on February 1, 1872, careful examination was required to detect any trace of the injury.—*Brit. Med. Journal*, Dec. 21, 1873.

THE
DENTAL REGISTER.

VOL. XXVII.]

JULY, 1873.

[No. 7.

THE DENTIST OF THE FUTURE.

*Read by W. P. Morrill, before the Joint Session of Indiana
and Kentucky State Dental Associations,
June 5th. 1873.*

"American Dentistry, from the earliest annals, must be conceded to be of significance, interest and profit. Casting our eyes over that period when dentistry first began its existence, we recall the giants, not pigmies, who lived in those days. Among these were Gardette, Greenwood, Harris, Parmleys, Townsend, Badger, Maynard, and many others, who become fixed stars in this firmament of pioneer dentistry, and whose effulgence still glows with a steady ineffaceable radiance. We venerate their names and their deeds, for they were glorious. Conspicuous as these bright examples are in our history, conspicuous as many illustrious names which still live to adorn our profession to-day, we cannot resist the temptation of throwing forward the horoscope, and of snatching the gleam of what shall be *the dentist of the future*.

Comparatively unknown to the pioneers of dental practice were the researches of science and the ingenuity of art now made subservient to our purposes. The precious germs of knowledge, once so scarce, have multiplied and been spread broadcast in our day, so that each representative of our voca-

tion may increase his store of knowledge without stint or hindrance. Notwithstanding these sunny avenues of our intellectual life, sweet and attractive as the palm colonnades of a tropical clime, where the fountains of truth scatter their gems, the number of dental practitioners who wander in these grateful retreats, and pause to strip the waters of science, are alas, too few. We could wish that responsibilities of the future, which is to be a period not of apathy but one of industry and science, could be more evenly distributed.

Defective education, formidable and wide spread, besets our progress; but the echoes of Reform! Reform! reverberate from the shores of Atlantic to the slopes of the Sierras along the Pacific. The exigencies of the times, and requirements of humanity, alike demand that he who would reach the *ultima thule* of our profession must possess high attainments. Broader and more thorough culture is demanded. A preliminary education, high and liberal, is an indispensable requisite, as much so as in other professions. The curricula of dental colleges are tending toward improvement and excellence. The training and discipline necessary for a candidate to receive the honors of these valued institutions, and to fit him to enter an honorable career of dental practice, must be painstaking and scrupulously exact. It will be no disparagement to our illustrious prototypes who have adorned our profession, nor to those who still live to grace it with becoming honors, to say that the dental practitioner of the future must possess greater qualifications than his predecessors. Much broader and more catholic principles, and more unselfish tenets prevail to-day among dentists than at any time previous in our history. Prejudice and petty bickering among the cultivated as well as among unlearned of our calling; while men freer and more enlightened in their moral nature are encouraging social and friendly intercourse. The free offerings of our collective counsels and experience which these associations themselves impart, like the irrepressible air and light of heaven, infuse fresh energy into the monotonous existence of every practitioner. These organizations, binding together with adamant chains professional and fraternal sympathy, are the instrumentalities which are destined to encompass the whole

land with their recuperative energy. Assurances such as these are written upon the lintels of our profession. We are then not left in doubt as to what shall be the qualifications of him who shall be *the dentist of the future*.

The sphere of scientific research expands daily. An acquaintance with the minute and exact discoveries of medical science should be the laudable ambition of every practitioner of dentistry who expects large results. There is no one with a brilliant record here to-day who does not in a large degree possess this culture. These observations, made richer and more valuable by experience as time rolls on, will become the inheritance of successors. Natural and more rational modes of treatment will then be understood and practiced. The diagnosis will be accurate, penetrative and discovering. The utility and value of the teeth in their relations to human economy, to say nothing of beauty, will be better appreciated even among dentists. Conservative methods for the teeth's preservation will be more persistent and rewarded with higher triumphs. Three-fourths of the cases we see deformed with hideous artificial dentures under this new guidance and superior skill will be wearing their own natural teeth. Extraction of teeth—knights of the forceps—will be among the lost arts. Labor-saving machines and mechanical appliances beyond anything we know of, will continue to be brought to still higher perfections and greater utility. These facilities will improve the character and increase the permanence of work performed. Our text books, embracing the results of scientific discoveries, will furnish valuable assistance to the student of the future, containing as they will, well digested principles of dental science. In the list of subjects treated of in the standard works will be : dental physiology, dental pathology, dental microscopy and anatomy, dental therapeutics, dental chemistry, dental surgery and operations by a score of authors. It must be confessed with no little mortification that but few works of this kind at present adorn any of our libraries. All the advantages to be derived from this service so indispensable to our present needs, will be reserved for our more fortunate successors. The current periodical literature of the profession now so fragmentary, loose and ephemeral, will

have more solid and enduring character. Those who shall have charge of this department hereafter will be men who can devote all their time and attention to this one pursuit.

In taking part in these triumphs of profession the student will have claim to rank fellowship, and recognition among the learned. In the domain of art, which is an indispensable adjunct to the specialty of dentistry, the results reaching higher ideals in expression, and continuing the assimilative and fusing processes of the imagination—methods far beyond any now known will be the temporary field of the future votaries of our calling. It is useless to predict what is fast becoming an accomplished fact; that of making the manufacture of artificial dentures a separate department. Even now there are numerous dental practitioners who devote themselves entirely to operative dentistry, lopping off the mechanical branch so far as dentures are concerned. This indicates the exercise and concentration of all the powers and faculties in one given direction, thus increasing the efficiency of this department.

With all these civilizing forces and world moving tendencies urging us to duty and to truth, we can neither remain idle nor listless spectators but earnest co-workers to carry forward the general interests of dentistry which are to have such an important bearing in the future.

The great want of the present, as auxiliary to this preparation, is the tone of public sentiment. If we had some way not degrading, by which we could communicate hygienic laws to the masses; make them acquainted with the nature and value of dental operations, then would charlatanism have few votaries and honest merits receive greater rewards. We might, I think, lay aside some of the dignity of our calling, invade even the confines of ethics, without being inconsistent with correct notions of propriety, and have this instruction given, even though the channels of the press be employed. The clergymen do not rely upon supernatural powers alone to keep the truths of the gospel and revelation alive, but arouse the people to a due respect for the lessons they teach. The conservation of the teeth may not have that eternal importance, but during our sojourn on earth it is some

comfort to know that we possess knowledge and skill adequate to preserve these organs in natural lifetime ; and a confidence in this information with which to inspire the masse to a proper tone, would materially lessen the burdens of our profession. Time in office practice does not allow us to give this instruction. How every dentist knows the comfort and ease he experiences the moment a patient approaches accustomed to dental operations ; but if we have ignorance and skepticism to baffle with and fritter away our time, how laborious and unsatisfactory will be our services.

I have now indicated, imperfectly it is true, the preliminary ground work which time and experience assure me is in reserve for *the dentist of the future*. These requirements are far beyond any period in our history. That they are already responded to with alacrity by no inconsiderable number of our profession, is true. The ability, strength, and faith which the masses are also beginning to repose in our calling, is a more hopeful promise carrying encouragement with it. Anticipating the day when judicious instruction in the laws of life will more generally prevail, when mental, moral, and physical obligation shall be corrected, giving to us a nobler manhood, then will our profession certainly have less discomforts than those we experience to-day. The precise period can not be foretold, but not in remote future will the character and influence of the dental profession be more sensibly felt among the masses. Punctuality in attendance of patients on their engagements should be more prompt. In the success of the practitioner of the future people will take more pride will esteem it their bounden duty, to pay the dentist regular visits, as among the important affairs of life. He will become their true counsellor and guide. The scope of his opinions will embrace not merely present needs of the case, but extend from etiology to an assured prognosis. Public sentiment thus elevated will not hesitate between the meritorious and the pretender. Empiricism will be left without dupes. Our State laws for the protection of the people against quackery will be useless.

These prospects now seeming Utopian for the dentist of the future, I have abiding faith to believe are not over drawn

but imperfectly sketched. Nevertheless, as a co-worker upon the living tissues of that mystic life to which our profession is mainly dedicated, I bid you not in burning words of Napoleonic grandeur that "forty centuries look down upon you," but from the heights of the past and present ages, "countless worthies of our godlike profession point and beckon to a goal more elevated than ever attracted legislators and conjurors, Solons and Cæsars."

EXOSTOSIS.

The subject of exostosis has difficulties which most practitioners have encountered. I do not mean to hint that it is difficult to diagnose a case of exostosis: that is a very simple matter. The questionable tooth has only to be drawn and examined? But if a diagnosis must be effected while the tooth yet retains its position in the alveolus, the aspect of the case is entirely changed. What was easy before may now prove one of the most perplexing and obstinate problems that the practitioner will encounter. We know that the patient suffers, and we are able to get descriptions of his pains, which though graphic are yet confused, if replete with detail, are yet contradictory. I have desired to call attention to this affection, and particularly to special points, connected with it.

In hastily writing the following questions, I have aimed to arouse thought and investigation among young practitioners. I have often thrown the interrogation into illogical forms, and purposely given a mistaken bias. I hope practitioners will communicate to the REGISTER their experience in treating this disease.

If we define exostosis to be an extension of ossific tissue by the addition of new matter upon its surface or within its substance, is our definition likely to be confounded with normal growth or with other forms of morbid growth?

To what forms of pathological tumefaction are the hard tissues subject, that are liable to be mistaken for exostosis?

In dental exostosis is the production of the new structure preceded by the formation of soft cartilage, into which the

phosphates are deposited? Is the new tissue a deposit upon the surface of the old, or is it an expansion of all parts of the old as a seeming result of the development and proliferation of the elementary parts? In hypertrophy of the cement is the nutritive matter necessary to the increase of the part passed from the pulp through the dentinal tubuli, or is it furnished by the periosteum?

It has been said that a continued irritation of the periosteum accompanies hypertrophy of the cement. Is this irritation always a concomitant symptom, and does it precede or follow the earliest hyper-ossific deposit?

Was the observation of Thomas Bell, that the added substance in dental exostosis, is "harder, yellowish, and slightly transparent, (translucent)" ever confirmed by subsequent investigators? If so, does the dentine in exostosed teeth share in this increased density, translucency and color? Are other teeth in the same mouth usually well calcified, or in an exostosed tooth occasionally found among other teeth whose tissues have been starved for want of mineral substances?

Does the nodulated or warty variety of exostosis depend upon the same or similiar causes as the cap-shaped variety in which the hypertrophied cement, covering the whole root, thins towards the neck of the tooth?

Does exostosis depend upon constitutional conditions in any such manner as to associate it with calcification of the pulp? Are the two affections frequently found together? If so are there any other concomitant circumstances which we may safely set down as connected with them both; such as peculiar temperaments, special diathesis, or particular habits as regards food and exercise, or marked systemic tendencies? Do age or sex exert a modifying influence on diagnosis as regard frequency of presentation or severity of cases?

Why does exostosis occur most often in bicuspids and molars? Do additions to the cement occur after the pulp is devitalized?

Do we often find exostosed teeth sensitive to percussion, painful to thermal changes or affected with inflammation of the pulp? When exostosis is complicated with exposure of the pulp, or with sensitive dentine, how may the symptoms

of these three separate affections be discriminated and traced, each to its own proper cause. In what manner may we distinguish the neuralgia which arises from the lesion of a nerve from that which is due to exostosis ?

D. C. H.

ADDRESS.

Of Dr. W. H. Goddard, upon retiring from the Presidency of the Kentucky State Dental Society, at Louisville, June 5th, 1873.

"It has become a time-honored custom, which I would not disregard, for the presiding officer, on retiring from the chair, to address his associates on some topic pertaining to our profession, so that his latest official act shall be an effort to arouse in their minds a fresh measure of interest in their profession of itself, and in this association, as a means of culture for its requirements, and of elevating and stimulating social fraternity. Before I announce the subject which I have selected, in order to carry out this pleasant but responsible duty. I take occasion to congratulate you, gentlemen, on the happy auspices under which we have assembled together at this our annual meeting. During the interval since last we met not one of our number has been summoned away from the duties and enjoyments of earth to the higher and better life beyond the grave ; while the great majority, I believe, have reason to thank the kind Giver of all good for innumerable blessings which he has showered upon their pathways. Let us hope that those of us who have been subjected by that same loving Providence to seasons of trial and discipline, if there be any such, have had grace given them to descry sources of blessing in even such occasions of suffering, so that we can all join in offerings of devout thanksgiving, and in vows of self-consecration to truth and duty, and thus deserve the utmost benedictions of paternal love in the unknown future. Gentlemen, I shall not detain you long ; and I have not vexed my brains in an effort to strike out an original and novel train of remark. On the contrary, I shall employ some of the most familiar associations of our profession in the past, as a stimulus to a higher

ambition and an ever increasing ardor of interest and effort in the future.

I shall speak of the SPIRIT OF PROGRESS of the present age as it has given impulse and character to our profession.

It is very hard to pronounce upon the attainments and progress of any age of the world in comparison with another, because the conditions of thought and action in every two such instances are so peculiar and contrasted, that what may seem in some lights to be feeble and puerile, in others deserve to be rated as gigantic and marvelous. And yet, I think that this nineteenth century, with its railroads and steamships, its scientific researches, and that miracle of intercourse by which the "Puck" of Shakespeare, who said he would put a girdle round the earth in forty minutes—is beaten out and out, and a girdle put around the earth with the speed of thought itself, deserves to be rated as being especially the age of progress.

Some writers tell us that the ancients knew more of some things than we do; and talk about "the lost arts." Very likely there were artistic processes, some of them very curious and beautiful, which we do not know how precisely to emulate. But it is when we bring the triumphs of the Nineteenth century in art and science home to the hearts and lives of the masses of the people, facilitating intercourse, bringing the nations into immediate contact as one family, dispelling ignorance, putting machinery in the place of human muscle and sinews, renovating commerce, reconstructing society and uplifting the individual, it is then that the immense superiority of the present age becomes manifest. "The lost arts" of the ancients pertained to the luxuries of the high born alone. The arts of to-day enable nation to greet nation in friendly embrace, and illustrate the finality of the great federal compact of universal nature.

These results are not confined to any special pathways of human endeavor, or any particular branches of science, but with wonderful universality, affect all departments of science and art, and all the avocations of life alike. The first principles of everything, both in general and in detail, are sought after with unwearied diligence and consummate sagacity, and every walk and profession, enabled thereby to understand its

own capacities and opportunities, is rapidly marching on along the open avenues to perfection.

Restricting the subject to our own profession, I remark that dentistry being intrinsically a branch of surgery, I am led to call your attention to the astonishing fact in relation to surgery in general, that now the terrors once pertaining to this thrice-honorable department of practical science are all done away by the means we have of utterly negating the pain it inflicts.

The world is not half alive to—not half grateful enough for this singular blessing. Once the amputation of a limb, or the removal of a tumor was looked forward to by the patient as something to be dreaded worse than death itself; and was resorted to, for the most part, only when the alternative was the operation or speedy decease. Science has removed all these pangs, and thrown the angelic mantel of oblivion around the patient, who sweetly sleeps in unconsciousness while the instruments of the surgeon are carving through his flesh. So too, death itself, as sometimes it makes its slow and torturing approaches, is robbed of its fearful sting. Even the gallows has enjoyed the immunity imparted by science, and the criminal been rendered unconscious of the horrors of his taking off. Whether this is not pushing open the door of advantage a little too far, I will not delay to discuss.

No other branch of practical science has surpassed that of dental surgery in the marvel of its progress. During the seventeenth century it made but few advances, and was in a very crude and elementary condition. But in the eighteenth century it took a noble start. It became a subject of more critical inquiry than before, and of thorough investigation according to the measure of the culture and appliances of the time. Eminent men wrote on the subject, and a broad and deep foundation was laid, on which other eminent men have subsequently reared a noble and commanding superstructure. Dentistry at length began to attract general attention, and to assume a distinct character as a profession. Still its progress was slow. At the commencement of the present century a brighter era in this department of surgery began, and from thenceforth its progress was destined to be rapid. For it began

to feel the stimulus of the spirit of enterprise and improvement which was stirring men to the very centers of power, and nerving them to new and grander achievements in every department of science and art. Many noble minds, animated by a spirit of emulation, devoted their time and talents to the furtherance of this particular branch of science. They went bravely and triumphantly on, undeterred by whatever obstacles, toward the summit of professional excellence.

From that time, many elaborate treatises on the subject have been issued from the press in different countries, which have been translated severally into other languages, and diffused in every civilized land.

In our own country, dental surgery as a distinct and progressive profession is of recent origin. It was first introduced as such during the time of the revolutionary war, but when it had once obtained a foothold, it enlisted in its interests and advancement some of the finest abilities and choicest practical skill, of which our people can boast so much; and before long we find American dentists surpassing those of Europe in the mastery of that combination of principles and practice which forms the basis of the proudest researches in science and art, in some instances supplanting their European contemporaries in the fields of their own effort and enterprise.

But it is within the last quarter of a century, or a little more, that dentistry has advanced to its present perfection. And as it grew in repute and favor, as it distributed garlands of honor among its prominent practitioners, and promised ample emolument for eminent success, it shared the fate of all successful human enterprises and undertakings, in gathering to itself a host of ignorant pretenders and charlatans, eager to reap large pecuniary benefits under its protecting ægis. And while, on the other hand, we had a Hudson, a Haydon, a Koecker, a Harris, and many other distinguished men to give the profession standing and impetus through their abilities and labors in its behalf, on the other hand we had hundreds who rushed with brazen effrontery through the open portals and assumed the insignia of the profession, while destitute of any qualifications for its successful and honorable prosecution.

The dangers which menaced it in this direction led to a new

phase in its condition, which was destined to give it fresh character and position. Some of its bright ornaments, who felt it to be necessary to enable the community to discriminate between the competent and the incompetent of those who had entered the profession, and thus to prevent gross imposition, who also appreciated the additional advantage of elevating the standard of professional capacity and sufficiency, and affording the means of progress in professional culture, formed themselves into State associations and district societies for the interchange of thought and mutual improvement. Only those fitted by character and culture to discharge the high and responsible duties incident to the profession have been admitted to this noble brotherhood.

This was a step in the right direction. It sifted the chaff from the wheat. It inspired the members of the associations thus formed, with fresh enthusiasm for their calling and an eager spirit of inquiry for further and grander advances. It spurred the science of dental surgery rapidly forward ; developing minds hitherto quiescent into admirable activity, to reap large results in every department of the profession.

The spirit of progress did not end its energizing influences here. Still newer and untried sources of improvement were suggested and demanded by the bright lights of the profession, and dental colleges were instituted to which students could resort and obtain a thorough medico-dental education ; and thus carry with them at the beginning of their career a passport to the confidence of the public.

Within the past few years how rapid has been the advance of our profession, and is not this greatly due to the influence of the associations which exist among us ?

When the members of such associations, annually or oftener, assemble together for interchange of ideas, and freely impart one to another, the results of their thought, investigations and experience, must not a new impetus be acquired from this accumulation of the sources of power and progress ? Believe me I do not exaggerate the importance of such affiliations. Our own association, although young, and, I am sorry to say, few as yet in numbers, may become the source of incalculable benefit, if its opportunities are appreciated and wisely improved

If laying aside all jealousies and personal rivalries, and the bickerings and estrangements which they generate, all seek to obtain the good which may be conferred, in the interests of individual improvement, of the advancement of science, and of the honor and progress of the profession.

I will not delay to recount the important improvements which have been made of late in material, instruments, and mechanical appliances to facilitate our operations.

I will only suggest that this constitutes a highly interesting field of observation of itself which I trust some one will survey for our advantage.

Such is a rapid review of the results of the spirit of progress as it has developed the scope and resources of our profession. And recurring once more to the immense advantages which have been derived from association, I beg you, gentlemen, to bring these remarks to bear, as they have been earnestly intended, on the interests of our own association, and the duties which it imposes. Are any indifferent to the sources of power and progress which it places in our possession? Are any careless of the promotion and diffusion of dental science, which similar associations have accomplished? Are any unmoved by the recorded history of triumphs effected through such agencies? Are any willing to hold themselves aloof from co-operative effort, and say that they have no individual concern with the subject?

Gentlemen, much has been gained, but let none be satisfied. Far greater advances and successes are yet in store. While all other sciences and arts are constantly striding forward with giant steps, our own profession has an equally open field for fresh attainments; and it is for us to lend it all the stimulus and energy to be realized from our own devoted and zealous co-operation, as it careers forward towards the exalted summit of perfection. There is everything to animate us. We have seen what results have ensued from the endeavors of single individuals; and the power of association is after all only the effect of individual resources brought into one aggregate, and gaining strength from interdependence and centralized energy. Then let us bend every effort to fulfill our part in the noble work, and become helpers towards the great consummation.

Let us not be content with doing nothing to retard it. Let us not stand indifferent, mere curious lookers-on ! But when the close of the nineteenth century shall exhibit, as it surely will, a record of knowledge acquired, of discoveries made, of inventions perfected, of skill exhibited, such as would astonish us, were it displayed to-day, so far will it surpass not only the actual searches of the profession, but the very dreams of its enthusiastic disciples ; let it be that the issues of our interest and our diligence shall have entered as materials and forces, in the production of the grand result : and though no special applause may accrue to us among our fellow-men, though our work may be too humble to win for us renown, we shall go down to our graves in the happy consciousness of duty performed, of energies exerted, of our chosen profession cherished and honored in our characters, our culture, our interest, our skill, and the world be made better for that we have lived !"

DR. STRICKER'S MANUAL OF HISTOLOGY.

BY D. C. HAWXHURST.

There are some gentlemen in the dental profession (only a few, I believe) who have no patience with any dental literature that does not relate directly to practice. They affect to despise all writing on those sciences which underlie practice. They are like the cock scratching on a dung hill with two or three pullets, who happened to turn up a jewel ; he knew what it was well enough by its bright lustre, but he affected a gay contempt for it, and expressed himself in this wise : " Indeed you are very fine, but you have no business here.

My taste lies quite another way ; and I would rather have a grain of barley than all the jewels under the sun." These gentlemen prefer some grains of information about edging a file or filling a tooth, to all the imperishable jewels of science. And yet it is true that the highest successes in practice are achieved by those most profoundly grounded in this same dispised science.

Perhaps Dr. Stricker's Manual of Histology will never be

called to feel the force of such strictures as are thus characterised by the attitude of the cock toward the jewel. I can conceive how its bright attractions may even win such scoffers at science.

No book, since the great work of Kolliker, has appeared that can at all compare with this translation of Dr. Stricker's Manual. It differs from Dr. Kolliker's work as regards size and method of production. Kolliker's work was mainly a result of the labors of one man. This manual combines the labors of more than thirty specialists directly into its pages without any remanipulation.

In such a science as histology great advantage must result from thus associating the labors of special workers in its different departments, for this province of knowledge is too vast to be acquired by a single mind. The specialist focuses the light upon his own spot in science. He studies life in a narrow area, brilliantly illuminated to his own eye, but shaded to the more distant vision of others. He will therefore be likely to talk more intelligently about his own department than any other man not engaged in his specialty, and only knowing it at second hand.

And this seems to have been the view of Dr. Stricker, for he has chosen from a large number of experts, already distinguished for their discoveries, a roll of names great enough to cover the whole field of histology. This able corps of scientific men, whose business it has been to study the structures of animal life, have endeavored to set before the reader what is at present known of the minute constitution of every tissue and fluid of the animal body, and also the character and mode of organization of their ultimate parts.

The richness of results which we here find poured without stint into this large volume, is somewhat appalling to one who has been accustomed to master his text book in the short space of three months. But this is no ordinary text-book. It can not remain undiscovered that this manual is one of those books from which text books are compiled. It contains the original point of knowledge, fresh from the basket of the discoverer and picker, with the dew still dripping and the bloom still on.

I am sure that the reader will be glad to see the name of

Kuhne over two articles on the Termination of Nerve in Muscle, and, not less so, to see an article by Buch on the Examination of Muscle in Polarized Light.

Pflüger's admirable article on the salivary glands will justly interest the student ; he should remember that Plugger's statements concerning the distribution of nerve fibres to the gland cells have not been confirmed by other observers, and have therefore fallen into discredit.

It should be observed that the structure of the fibres of voluntary muscles has not been explained with sufficient fulness. Noting this omission while treating of some allied topics, Prof. Stricker promises a fuller treatment in the second part. Turning now to the promised article we find a few pages mainly critical, and certainly very inadequate.

It would be extraordinary if a first edition of so large and so solid a work as this did not contain some instances of oversight and error. Even so acute an observer as Rollett must regret that he did not study the views of *Rauvier* before he wrote his paper on connective cells.

The disciples of Dr. Beale will find *Hering's* doctrine on the relation of liner cells to the gall capillaries, at variance with their accustomed view, and will be profited by the careful study of the later doctrine.

Meynert has attempted to demonstrate the connection of all parts of the brain with each other, and has expended immense labor in showing or attempting to show what the exact nature of the relation is. He holds that every part of the brain is connected with certain paths of sensation and motion, and endeavors to show the laws of action. His style is obscure and full of ambiguities, and I am glad that I am not the only reader who has found his meaning inextricable. I have hesitated to condemn this paper of *Meynert* for I well know that the subject is a difficult one. I hope what I have written may not deter new readers from an impartial examination.

The illustrations are generally admirable, I have noticed one on page 382, however, which by some oversight was not lettered.

These are a few blemishes in a work whose merits are much less easily enumerated.

It is difficult to pass over Dr. Stricker's two chapters on the

character of cells without the highest commendation. They are as interesting as a fairy story, and are as a whole the best exposition which we now have of the cell.

Nor can too much be said in praise of Max Schultz's exposition of the minute structure of the nervous system.

Ludwig on the kidney, Waldeyer on the teeth, and thirty or forty other papers must all receive praise if one should set for himself the task of commending all that is excellent in this volume. It contains a larger mass of accurate knowledge than has ever before been brought together; with a keener scrutiny of each department, and a mastery of treatment more perfect, than can possibly be found in a text-book produced by a single author. If it is not symmetrical in its treatment of each industrial topic it is because much is yet unknown, and because the authors have chosen to walk a path thickly strewn with facts rather than ascend into the regions of hypothesis and imagination.

Histology is a growing science. In it are at work a host of keen eyes, and shrewd intellects, unearthing new facts in the old departments, and opening up new fields of inquiry, discovering new principles, and developing new methods. The proportions of the science grow visibly, and are likely to leave behind every book that does not run rapidly through a succession of editions and revisions. The best that a book can do is to reflect to the reader the state of knowledge on the subject of which it treats at the time of its publication. The course of discovery being forever onward, new additions are made which the book can tell us nothing about. There is no exception to this rule in case of Dr. Stricker's Manual. The reader and student must note the progress of discovery in the scientific journals, and make corrections for himself.

But making due allowance for all the faults which are to be found in this book, it must be said that it is, and was intended to be, one of the solidist scientific works of the year. It is, indeed, quite refreshing in this age of book-making, in which the most necessary material are good paper and neat binding, well blown up with windy imaginings and plausible hypotheses—it is especially refreshing to meet with a volume

so rich in facts and so full of original studies of special subjects.

Nor is this a book that can be mastered without labor. It will call out the student's best powers. Some books are so carefully accurate, so full of gradation and order that they make no demand for thought. It might almost be said that they count the reader a fool, and do the whole work for him, gorging the passive mind with weakly diluted knowledge.

Such is not the character of this manual. By the wide range and exceeding minuteness of its inquiries it calls for intelligent and determined labor in the reader. But still more by the habit which many of its contributors have, of presuming upon the reader's learning and sagacity, it appeals to his best faculties, and is wonderfully suggestive to him who can take a hint from his author, and study it until it expands and ripens into results.

It is fitted to provoke and stimulate the student's faculties to their fullest activity. Ambitious young men, practitioners of either medicine or dentistry, who wish to explore thoroughly those sciences which form the groundwork of the laws of cure, will find no other work in the department of histology so helpful to them, for the simple reason that no other work in English is so exhaustive and complete.

On the night before the celebrated battle of Pharsalia which he believed would decide the destiny of nations, Brutus sat in his tent beneath the stars, reading and making notes with his pen. Amid all the apprehension and preparation which precede a battle, this great mind found time for that communion with literature, which seemed native to it. If the practitioner finds his mind too easily diverted by the demands of business, from ordinary books, let him try Dr. Stricker's Manual. He will find in that an anchorage sufficiently heavy to hold him. Its glimpses of histological physiology, its revelations of morphology, and its several hundred beautiful illustrative engravings, are all attractions. I cannot but hope that they may draw him to his desk during many an otherwise wasted evening hour.

DR. JOSEPH TAYLOR.

Cincinnati, June 15th, 1873.

DR. J. LESLIE—Dear Sir: In reply to your kind enquiry with reference to my brother, Dr. Joseph Taylor, recently deceased, I would state that he was born in September, 1806, Bainbridge, Ross Co., Ohio, and consequently he was in his sixty-seventh year when he died. The few of his early associates, professional and others, will recollect him in his youth as remarkable for his activity and athletic power; being full of life and vivacity he was ever a leading spirit in all innocent amusement. In 1830 I was pursuing the study or medicine under the instruction of Dr. John Harris, brother of Prof. C. A. Harris, the latter practicing medicine in Greenfield, and the former in Bainbridge, Ohio. Dr. John Harris and myself were devoting more or less time to the practice of dentistry, and our success in this specialty led Dr. C. A. Harris as well as my brother to turn their attention to the same.

My brother of course had frequent opportunity of seeing Dr. Harris and myself operate, and without any consultation with any one determined to try his hand at dentistry. He set to work without our knowledge, made and secured such instruments as he conceived would be necessary, and started out on a trip through the interior of the state. He soon found his suavity of manner and genial address made it not difficult to secure business, but he also learned that he knew but little about dentistry. This short experience however fixed his purpose to take hold of dentistry as a profession. So that at once he put himself under a course of instruction and pursued it with much zeal and energy, so that in a few months he returned to the same place of his first adventure, and finished up operations he felt unable to do at first.

This incident of his early life was characteristic of his whole professional career—he was quick to see his own defects, and was persevering to remedy them. This led him from year to year to extend his studies, and ultimately secured for him from one who knew him well the degree of Doctor of Dental Surgery—we mean Dr. C. A. Harris, of Baltimore.

After spending sometime in Ohio, West Virginia and Pennsylvania, he determined to visit the South, and in the winter of 1831, he located himself in Vicksburgh, Miss. This city was then first commencing that rapid growth, which gave it great notoriety, and afforded him a fine field for practice. His success was commensurate with his energy, and for five or six years this place was his regular winter abode, spending generally about six months of each year in this place.

In 1837 he married Miss Bell, of Greenfield, Ohio, and this led him to seek a more permanent abode, and hence a year or two thereafter he moved to Maysville, Ky. At this place Flemingsburg, and Mayslick, he found full employment, and only left at my urgent request to join me in the city.

Feb. 1850 he came to Cincinnati, and remained with me in practice until 1859, when some bronchial trouble admonished him that some other avocation which would expose him more to out-door exercise would be better for his health. For this purpose he engaged in the nursery and horticultural business, and through which his health became very much improved.

The disease which took him off was peri-pneumonia. His vigorous constitution made two or three efforts to throw off the disease, but the unfavorable weather of the spring kept renewing the difficulty until nature sank under the disease.

His most marked and striking professional characteristic was his admirable tact in adopting means and appliances to meet difficulties in practice. This was positively the case in mechanical dentistry, and showed itself strongly in methods for correcting irregularity and for constructing obturators and palates.

When in Maysville, a gentleman applied to him who had a large portion of the lower jaw and the palate completely destroyed by a gun shot wound; he was utterly disfigured and unable to articulate a word understandingly, he made an artificial jaw, teeth and palate, and not only restored his speech but his good looks.

He was the first to extract the anterior superior molars by an outward and downward motion on a line with the direc-

tion of the palatine fang—securing their removal by the one effort or motion. In the removal of these teeth I think he excelled any one I ever saw. He had great patience and perseverance in any difficult operation if he thought success possible.

He took great interest in the early organization of our dental societies, and in discussion showed clear conception and much good practical sense. He had a high appreciation of dental science, and always aimed to elevate it.

He was not much given to authorship, but his first article on the use of letheon, in the first volume of the REGISTER, shows that his mind at once laid hold of the subject, and that he appreciated fully the constitutional idiosyncrasies, giving varied results in its administration. This and one or two articles on other subjects led me to think that a little practice would have made him more than ordinarily successful as a writer. His clear conception of a case, and his ability to express his views logically and forcibly justify this conclusion.

He was one of the early pioneers of our profession in the West, and did his full share in placing it on that firm basis which it now enjoys. Of the many who rushed into dentistry during the period of short study from 1825 to the establishment of our dental colleges—say Baltimore and Ohio—but very few lived to accomplish more.

He was one of the few who then entered the profession who felt its importance and tried to meet its responsibilities aright.

One of the few who kept pace with its progress for thirty years, and only left it to seek a more healthy avocation.

J. TAYLOR.

It may seem as though perfection were reached in the various professions; but the old men who now totter along with the rapid present, thought so too, when they began, years ago.

ALVEOLAR ABSCESS.

BY THOS. R. PERRY, D. D. S.

Report of the Committee on Dental Surgery, read before the Michigan State Dental Association, for October, 1872. Read by Thos. R. Perry, D. D. S.

The subject of Alveolar Abscess has been written and talked about so much, during the last few years, that your committee feel a little delicacy about making a report on it, lest they fail to interest the larger portion of this body. The object of this paper is to bring out what we know, and what we do not know about abscess. Until within a few years, it was a foregone conclusion that when a tooth had given rise to abscess it must be extracted to allow the parts to heal.

Even the author of one of our most valuable dental text books advises the extraction of a tooth, if it be the cause of abscess; he recommends no attempt at cure in such cases; evidently, he did not deem a cure practicable.

Of course the members of this association cannot accept such teaching at this day. Nor do we believe that the author referred to, would now advance the same views. But there they stand in the latest edition of his work. I only refer to them to show that it is but a few years since able men confessed themselves unable to cure abscess.

But few practitioners of the present day regard alveolar abscess as incurable. I presume that the majority of the members of this convention will agree that most abscesses arising from the teeth may be successfully treated, and the teeth that have caused the same rendered useful for many years. There are some who say that all can be.

Your committee do not propose to describe the various stages and symptoms of the disease, but only to give records of a few cases, in practice.

(Case No. 1.) Mrs. A., lower second bicuspid right side, abscess had been formed and lanced by the family physician twice, patient was finally advised by him to have the tooth extracted as it was of no use to her, and could not be saved. When your committee saw the case 3 years ago, the swelling had partly gone and there was a discharge through a fistulous

opening, the root was thoroughly cleansed of all foreign and decayed matter, and then injected through the canal carbolic acid and cologne and repeated the treatment two or three times and in two weeks filled, all discharge had ceased and odor abated, the tooth at last accounts was doing well, about six months ago.

(Case No. 2.) Miss B. who resides in one of the New England states, called to see if anything could be done with her left superior central incisor, containing a large amalgum filling, tooth very dark with fistulous opening in gum, had been discharging more or less two years, removed filling cleansed the canal as thoroughly as possible and injected carbolic acid and iodine through canal, we continued the treatment and in about four weeks deemed it advisable to fill, three years have elapsed since the treatment, a few months since we saw the case and it was in as good condition as any of the other teeth to all appearances.

(Case No. 3.) Mr C. superior cuspid right side large cavity on distal surface, filled with gold, did not consider the nerve exposed, although a little sensitive but gave no trouble when we filled. About two and a half years after, he returned with periodontitis with slight swelling over said cuspid, it was apparent what the trouble was, and we drilled from palatine surface to nerve canal and removed the dead matter and then applied carbolic acid, we continued that treatment a few times about every other day, the tooth felt so well that the patient neglected to call as he was requested. We had reduced the inflammation almost entirely, but there was still a little secretion and offensive odor which we could not abate, the gentleman was finally obliged to leave the city on business, to be absent a month, previous to his departure we filled the root with floss and carbolic acid which remained in until we again saw him, which was about three months, he then said he was going to attend to it until it was cured; we syringed out thoroughly, and then dried it out with bibulous paper and found the odor still there, we then pumped in chloride of zinc, saturated solution; it being a good disinfectant, for this we used a small broach wound with cotton for a piston with only a small quantity of the zinc on it, we did not do anything to it again except syringe it out with tepid water, for

several days it did not seem to improve, but at the end of a week it was all well and was filled, and has remained well since, about ten months.

(Case No. 4.) Miss D. filled first superior bicuspid right side distal surface four years ago, no signs of nerve exposed at the time, in June last she came to me with severe neuralgic pains I could not locate the point of trouble, the first molar on same side had a large filling in it and, thought perhaps it might proceed from it, she applied aconite externally which seemed to relieve it for the time being, requested her if the pain did not cease to call again, she returned home and we did not see her again for two weeks, in the mean time her face had become much swollen and the bicuspid somewhat elongated, it was not difficult to decide which was the offending member, we removed the filling and found that the wall between the filling and pulp was so thin that the thermal changes produced death, after removing the decomposed matter from the canal applied carbolic acid with instructions to call next day and every day. as we were limited to one week to cure or extract, the first we could not promise, and the latter we would not do, and perhaps in the over anxiety to cure we treated too much, for at the end of the week it did not seem to be much better than when we commenced, except all inflammation had subsided and the tooth free from soreness, but that lingering odor was there with a little secretion, which did not warrant us in filling the tooth, we finally filled the root with silk and carbolic acid, and the cavity with Hills stopping and advised her to call on a good practitioner and have it treated when she arrived at her destination, we would say that neither of the last two cases had a fistulous opening, we cite these cases as they are the most troublesome we have to contend with.

Your committee could relate many more but we are occupying too much time, one case more and we are done. A young man of twenty, first inferior molar right side had been discharging through a fistulous opening for a year past, the orifice had an angry look and what would be termed in surgery a malign appearance, which led us to think that necrosis was present, the tooth had been previously filled and the roots supposed to have been at that time, we removed the filling

and found one root partly filled and the other not at all, we gained free access to the roots and disinfected with carbolic acid for a few days and then injected aromatic sul. acid, and thoroughly packed the point in canal that caused the trouble with cotton, and then pressed on the piston until the acid passed through the external opening, when we withdrew the syringe and rinsed the mouth with bi-carbonate of soda, in three days after the odor had ceased, and the ulcer healing up nicely, nothing further was done except syringing with tepid water and filling the tooth with cotton, and in one week considered the tooth sufficiently well to fill permanently, which we did with very good results, even the pounding it received in filling did not produce the slightest irritation. Next day it was apparently as good as any of the teeth. Your committee think that in many cases, the over anxiety of the operator to perform a rapid cure causes him to over treat and prolongs, instead of hastens a cure, a mere letting alone sometimes will do wonders.

PLACEBO IN DENTAL PRACTICE

BY J. C. HENRY, NEW ALBANY, IND.

It may seem strange to many of our profession that it is our duty occasionally to prescribe what in medical parlance is termed a placebo.

If we correctly diagnose many cases placed in our care, and have any sympathy for suffering humanity, we will often witness the happy result of a placebo.

In that mysterious nervous disease hysteria, the dental organs are sometimes involved.

I was engaged in a case about three months ago, that presents some interesting features to the dental practitioner. I was called upon by a gentlemen to visit his wife, stating that she was suffering intense pain from decayed teeth, and would like me to fill them. Instead of preparing myself for such an operation I took my forceps and accompanied him.

Upon examination I found a well defined case of hysteria. The patient referred me to her teeth. I found them decayed, but not a single nerve exposed, nor any pain in the use of the excavator. It was her desire that I should prepare myself and fill the teeth then and there. I did so, knowing all the while that the pain was referred to the teeth, but the difficulty did not originate there.

I had not progressed far with the operation until I found that her husband through kindness, yet through ignorance, had been medicating her upon morphia and brandy to relieve the pain, but he had failed ; and I am of the opinion that any remedy directly from his hands would have failed.

The operation of filling lasted about five hours, and during that time I was invited by the husband seven times to leave the room that she might urinate—a prominent symptom in this disease. When the operation was completed she expressed herself as feeling entirely free from pain, and in a few hours able to leave her room. The remedy I applied I think was the very best. It served a double purpose, that of preserving the teeth and relieving the imaginary pain.

Had the remedy not been so complete I might have been more rational in the treatment, and added Tinct. Valeria internally ; and I doubt not any intelligent medical friend would have said I was wise had I added a half-dozen bread pills.

THE most curious question connected with dental caries is the immunity of animals therefrom. Especially are those that gnaw, free from those troubles. It is said that there are South Sea Islanders with remarkably fine teeth, who file them off occasionally. The latter needs confirmation. At all events it is evident that rapid decay takes place on a surface protected from wear by deposit of "tartar," or by the constant presence of other foreign material. There is much yet to learn of enamel.

F.

Proceedings of Societies.

CALIFORNIA STATE DENTAL ASSOCIATION.

Pursuant to adjournment, the fourth annual session convened in St. Andrews Hall, Young Mens, Christian Association Building, San Francisco, May 20th. 1873, and was called to order at 10 o'clock A. M. by the President, Wm. Dutch D. D. S.

Prayer by Rev. Dr. Cox, of San Francisco.

Officers all present during the entire session, except Vice President S. M. Harris, who was absent on account of illness.

NEW MEMBERS.

During the session which continued four days, the following named gentlemen were admitted to active membership; J. W. Winter, Alex. Warner D. D. S., C. W. Richards, D. J. Nis, W. H. Stanley, J. B. Beers, F. H. Furgerson D. D. S., C. H. Fuller, and A. B. Wood, of San Francisco; G. C. Hoadley, of San Jose; F. H. Hubbard, M. D. of Sacramento; J. J. Dyar, of Santa Cruz; D. M. Powers, of Oakland, and A. Cornwall, of Virginia City Nevada.

HONORARY MEMBERS.

Dr. O. D. Munson, E. S. Belden, M. D., of San Francisco and B. S. Codman, of Boston Mass.

ESSAYS,

were read as follows;

Requisites of the Dentist,	- - - -	by W. J. Prather.
Circulation of the Blood,	- - - -	„ H. Austin.
The Mouth, its structure and Function,	„	R. Cutlar.
Operative Dentistry,	- - - -	„ J. M. Myers.
Causes and Treatment of Offensive breath, by Max Sichel.		
Dental Ethics,	- - - -	- by F. E. Bunnell.

REPORTS OF STANDING COMMITTEES.

Reports were received from Drs. Menefee, Bush and Mc Cowen of Com., on Mechanical Dentistry, and Dennis on Operative Dentistry. Also from S. E. Knowles, on Dental Pathology and Surgery.

SPECIAL COMMITTEES.

The Legislative Committee recommended a bill similar to the Ohio law, giving members of the profession, non-residents of the state, two years to prepare for an examination.

Report adopted, and Com. instructed to use all legitimate means to secure its passage at next session of the Legislature.

The revision Com. reported a revised Constitution, By Laws, Code of Ethics, etc., which were adopted. The Code of Ethics is the same as that of the American Dental Association.

The Barnum Testimonial Committee, accompanied their report with a magnificent testimonial, which will be presented to Dr. Barnum at the next session of the American Dental Association, therefore, I refrain from giving a description of it here. Although, as remarked by the Com., it is a paltry gift to one who has proven himself a public benefactor, by bestowing such a noble *free gift* upon the profession, when he had a fortune within his reach, had he patented his invention. Paltry though it be, it is one that he will be proud of, and it will reflect credit upon our Association.

DENTAL COLLEGE.

President Dutch in his annual address, said: "It is evident to us all, that we need on the Pacific coast, a school of instruction, for those who would qualify themselves for the practice of Dentistry. A school where the science and the art, the theory and the practice of dentistry may be acquired, and the power of publishing to the world as an authority to be respected, the proficiency of those who have been thoroughly taught, as by the giving of diplomas." He also recommended the selection of *eight* from our numbers, who might be deemed the best qualified, and "who were willing to take upon themselves such a responsibility, requesting them to organize from among themselves, as far as they can, a Dental College, affiliating with the University of California or some other city organization, for the purpose of conferring the degrees of D. D. S. Or failing in such satisfactory affiliation, then asking the Legislature to confer the power on the college itself, and that you give such an organization all the support you can individually and collectively."

Prof. Gillman, Professor of the University of California,

having been invited, addressed the Association on the above subject. He spoke of the University as an "institution of learning, established by the State on foundations which were laid by private devotions in the days of Argonauts, who believed in the wisdom which was better than gold. It has been endowed by the National Government with munificent land grants, and received from the State generous donations and a comprehensive charter. It is a University of the nineteenth century, open without money and without price to students of every state and country, designed to promote the efficiency of every branch of liberal culture."

He would be glad if in the organization of a Dental School in connection with the University, they could rely upon the co-operation of the California State Dental Association. All the authorities of the University would rejoice at suggestions and help and counsel from members of this society.

The Professor's address was received with applause, and he concluded by saying that he had "always dreaded meeting a single gentleman of the profession, and dreaded much more coming into the hands of thirty or forty," but hoped from the reception given him, that he would be able to report that we were united, and would be found cooperating with the University in the interests of science and humanity.

A committee of five was appointed to confer with the Board of Regents, relative to the matter and further consideration of it made the special order for 10:30 o'clock A. M., next day when the committee reported the following resolutions, which were unanimously adopted :

Resolved, that this Association receives with unqualified satisfaction the assurances that our most cherished hopes are to be realized through the wisdom and liberality of the Board of Regents, of the University of California, in their proposed establishment of a dental college.

Resolved, that we approve of and recommend the following curriculum of instruction in the College : 1. General Anatomy and Surgery ; 2. Physiology ; 3. Materia Medica and Therapeutics ; 4. Chemistry and Toxicology ; 5. Special Anatomy and Surgery ; 6. Operative Dentistry and Pathology ; 7. Dental Prosthesis and Metallurgy ; 8. Institutes of Dental

Science ; 9. Demonstrator of Operative Dentistry ; 10. Demonstrator of Dental Prosthesis ; 11. Course of Clinical Lectures ; 12. Board of Examiners.

Resolved, that the Association endorse and recommend the following named eight gentlemen as proper persons to fill the special chairs above designated : Drs. Wm. Dutch, S. W. Dennis, C. C. Knowles, Wm. J. Younger, H. E. Knox, S. E. Knowles, H. Austin and J. J. Menefee.

Resolved, that an Advisory Committee of five be appointed, and empowered to act with the Advisory Committee of the Board of Regents, in carrying into effect all necessary details of the organization.

The President appointed Drs. Cutler, Lundborg, Birge, Bunwell and Cogswell to act as Advisory Committee.

CLINICS

Were given during the session by Drs. Dutch, Dennis, Knowles, Knox and Younger.

DISCUSSIONS.

The several reports and essays were thoroughly discussed, and as soon as published each dental journal will be furnished a copy so that they can select therefrom any matter they may deem new or important to their readers, and the profession generally.

OFFICERS.

Our officers for the ensuing year are :

President—Dr. C. C. Knowles, San Francisco ; Vice President—J. J. Menefee, San Jose ; Secretary—H. J. Plomteaux, Woodland ; Corresponding Secretary—H. E. Knox, San Francisco ; Treasurer—H. Austin, San Francisco ; Librarian—J. J. Birge.

STANDING COMMITTEES

Were appointed on Dental Pathology and Surgery, Dental Therapeutics, Dental Chemistry, Operative Dentistry, Mechanical Dentistry, Histology and Microscopy, Dental Literature and Education, Publication and Executive.

THESES.

The President made the following assignments :

An inquiry into the Causes and Treatment of Degeneracy of Children's Teeth—Dr. D. M. Hughes.

The Secretions of the Mouth, Considered in their Normal and Abnormal Characteristics—T. H. Furgerson.

Pregnancy as Effecting the Teeth—H. Cornwall.

The Interrelations of Dentistry and Medicine—J. A. W. Lundborg.

Extraction of Teeth—F. M. Shields.

Dental Education—H. J. Plomteaux.

THE NEXT ANNUAL SESSION

Will be held in San Francisco, commencing on the second Tuesday in June, 1874, at 10 o'clock A. M.

Resolutions appropriate to the memory of Dr. E. O. Belle, deceased since our last annual session, were reported and adopted by standing vote.

Mr. F. P. Forbes, of San Francisco, presented the Association, for use of the President, an elegant marble slab and gavel, which was received with applause; and a vote of thanks extended the donor.

The able and efficient administration of President Dutch was highly endorsed by the Association.

The Session lasted four days, and, with short intermissions, was at work from 10 o'clock A. M., until 10 o'clock P. M.

After adjournment we proceeded to Dr. Martin's Restaurant, and partook of an excellent collation, given us by the San Francisco Dental Association. H. J. PLOMTEAUX.

Secretary.

BIOLOGICAL AND MICROSCOPICAL SECTIONS OF THE ACADEMY OF NATURAL SCIENCES.

May 5, 1873.

Director W. S. W. Ruschenbery, M. D., in the chair.

Present—Prof. J. Carson, and Drs. J. G. Hunt, F. W. Lewis, Tyson, Allen, McQuillen, Norris, Buckingham and Richardson.

Dr. J. Gibbons Hunt made a very interesting and useful verbal communication in regard to the use of extract of hæmatoxylon in the preparation of stainings of both animal and vegetable tissues. In the course of his remarks he stated that after repeated experiments with the solution as recommended

by Dr. J. W. Arnold, of New York, he had been led to modify the liquid by the addition of glycerine, which was found to render it much more satisfactory as a coloring material. The proportions which yielded, in his hands, the best results, were—

Arnold's solution (of alum and	
ext. of hæmatoxylon),	f3ss ;
Glycerine,	f3j ;
Alcohol,	f3j.

This fluid, which, when poured out into a watch-glass for use, should be perfectly transparent, resembles carmine in that it stains the nucleus of a cell very deeply ; but it also faintly colors other portions of the cellular elements, of different degrees and tints. Like chloride of gold, it enables us to demonstrate the very finest net-works of non-medulated nerve-fibres running from nucleus to nucleus in the coat of an artery, and it possesses the great advantage over the auriferous salt, that after such staining of the nerve tissue we can still study the ultimate structure of the nervous filaments.

Dr. Hunt observed that in vegetable histology hæmatoxylon had certain advantages over either aniline, carmine, or carthamus, among which he might mention the fact that when, as is too frequently the case, we overstain a specimen, this excess of color from hæmatoxylon may be in part removed by maceration in a weak acetic acid solution.

a

LARGE DOSES OF CHLORAL.

In the *Medical Times*, March 22, 1873, Dr. Maxwell reports an instance in which a patient accidentally took two hundred and sixty grains of chloral at one dose. He simply slept deeply for twenty-four hours. A case was reported in the same journal, October 15, 1870, in which the patient took four hundred and sixty grains of chloral without fatal effects.—*Detroit Review*, May, '73.

SOUTHERN DENTAL SOCIETY.

The next annual meeting of the Southern Dental Association will be held in the city of Baltimore, Md., the last Tuesday in July, 1873, commencing at 10 o'clock A. M.

It is sincerely hoped and expected, that the members of the following committees will correspond with each other, so as to act in concert, and furnish a report on each subject, and thereby make our next meeting one of the most interesting and instructive ever held, as it is expected to be the largest

OFFICERS.

President—Dr. H. M. Grant, Virginia ;

1st Vice President—Dr. F. J. S. Gorgas, Md. ;

2nd Vice President—Dr. T. T. Moore, S. C. ;

3d Vice President—Dr. A. C. Ford, Georgia ;

Corresponding Secretary—Dr. O. J. Bond, S. C. ;

Recording Secretary—Dr. J. F. Thompson, Virginia ;

Treasurer—Dr. H. A. Lawrence, Georgia.

Executive Committee—Drs. W. H. Thackston, John Mahony, Richmond ; F. J. S. Gorgas, A. G. Bouton, Maryland ; A. C. Ford, Ga.

Membership—H. J. Royal, Ga. ; O. J. Bond, South Carolina ; James Johnston, Virginia.

Publications—Drs. F. J. S. Gorgas, Maryland ; James F. Thompson, Virginia ; H. A. Lawrence, Georgia.

Dental Education—Drs. E. Floyd, North Carolina ; Judson B. Wood, Virginia ; James Knapp, Louisiana.

Physiology and Surgery—Drs. S. P. Cutler, J. C. McAuley, Alabama ; S. A. White, Georgia.

Histology and Microscopy—Drs. Wm. H. Atkinson, B. F. Arrington, North Carolina ; E. M. Allen, Georgia.

Dental Chemistry—Drs. George H. Winkler, Georgia ; John G. Angell, Louisiana ; Samuel Rambo, Alabama.

Dental Therapeutics—Drs. G. T. Baker, Philadelphia, Pa ; W. C. Wardlaw, H. J. Royal, Georgia.

Operative Dentistry—Drs. F. Y. Clark, Georgia ; S. J. Cobb, Tenn. ; T. T. Moore, South Carolina.

Mechanical Dentistry—Drs. S. G. Holland, Georgia ; G. F. Keiser, Virginia ; E. A. Herman, Tennessee.

Dental Literature—Drs. G. F. S. Wright, T. B. Legare, J. B. Patrick, South Carolina.

Voluntary Essays—Drs. W. H. Shadoan, Kentucky ; Wm. H. Burr, Georgia ; J. W. Scribner, Virginia.

Dental Appliances and Improvements—Drs. F. A. Jeter, Virginia. A. F. Bignon, Ga ; G. W. Peasants, Va. ; G. W. McIlheny, Ga.

JAMES F. THOMPSON, M. D., D. D. S.

Recording Secretary,

“DON'T ANESTHETIZE A WOMAN WITHOUT A WITNESS.”

EDITOR REGISTER:—The article with the above caption in the editorial of the “Register” for June, called to mind very forcibly an incident in my own practice, wherein I narrowly escaped the loss of both reputation and practice. While studying for the practice of dentistry, my attention was called to an article in one of the current newspapers concerning a dentist in Pittsburgh, who had had charges preferred against him by a young lady, for criminal conduct while under the influence of chloroform. He was tried and convicted, and by *her testimony alone*. Whether he was guilty or not could not be known, as in such cases the testimony of a woman is final. I there resolved never to administer any anesthetic to a woman alone *under any circumstances whatever*, neither in twelve years practice have I done so; and with what wisdom the sequel will show.

In April of the year 1863, I administered chloroform to a middle-aged lady for the purpose of extracting teeth. The operation was performed in the presence of her own physician. In about a week subsequently, the physician told me that twice during the week had she asked him, in good faith, whether I did not take improper liberties with her person; and so strong was the delusion produced by the chloroform during the operation, that nothing short of the testimony of an honest and faithful physician would have satisfied her.

Your note though short is timely; and so important do I

think it to be, that I am constrained to relate this fact in my practice, that younger practitioners need not stumble unwittingly. Much evil may be averted by strictly adhering to your advice: "Never to anesthetize a woman without a witness."

Yours very truly,

Ashland, O.

H. C. CRESSINGER

DENTAL CONVENTION.

NEW YORK JUNE, 20th, 1873.

MR. EDITOR.—The Committee of Arrangements would respectfully inform the members of the Profession, that the Nineteenth Annual Meeting of the American Dental Convention, will be held at *Saratoga Springs*, on the 12th day of August, (second Tuesday,) commencing at 10 A. M.

Messers Bresslin, Gardner & Co. of the GRAND UNION HOTEL, have generously tendered their *large Hall*, rooms for committees &c, also their *splendid parlors, grounds and band of music*, for our social entertainment, etc.

The town authorities, have also offered us a very suitable room for our meetings, in the new and magnificent Hall recently erected there.

The committee have made arrangements for the display and exhibition of Dental materials, and appliances of all kinds, also, for clinical operations during the entire session.

Dentists and others desirous of exhibiting instruments, materials or improvements in any department of Dentistry, are particularly invited to present them as early in the session as possible, and to notify the committee of their intention to do so.

As August is a very busy month with hotel keepers, it will be advisable for those intending to be present, to notify the committee of their wishes, etc.

The committee will see that good accommodations are provided for all who give timely notice, and for others as far as possible, and will endeavor to make this meeting a pleasant and profitable gathering to all.

The profession generally, are cordially invited to be present.

J. G. AMBLER.

Chairman of Committee, 25. W. 23rd. Street, N. Y.

NEW JERSEY STATE DENTAL SOCIETY.

The third annual meeting of this Society will commence on Tuesday, July 6th, 1873, at 10 o'clock, A. M., at the United States Hotel, Long Branch.

FIRST DAY, TUESDAY.

President's Address, and the transaction of business pertaining to the Society, including the election of officers.

SECOND DAY, WEDNESDAY.

Clinic, by Dr. W. Pinney, of Newark.

SUBJECTS FOR DISCUSSION.—10½ o'clock A. M., Tooth-ache : its Cause and Cure—Dr. C. S. Stockton, of Newark.

11 o'clock, Peridental Inflammation—Dr. W. H. Dibble, of Elizabeth.

11½ o'clock, Transplanting Teeth—Dr. L. H. De Lange, of Bordentown.

12 o'clock, Capping Nerves—Dr. Fowler, of Newark.

12½ o'clock, Regulating Teeth—Dr. E. F. Hanks, of Jersey City.

AFTERNOON SESSION.

12½ o'clock, Separating Teeth—Dr. Louis Reading, of Trenton.

3 o'clock, Rubber Dam, and appliances—Dr. Cosadi of Jersey City,

3½ o'clock, The Uses of Different Mallets—Dr. Geo. C. Brown, of Mount Holly.

4 o'clock, General Discussion.

THIRD DAY, THURSDAY.

MORNING.—Clinics, by Dr. Louis Jack, of Philadelphia ; and by Dr. Frank Abbott, of New York City.

AFTERNOON.

2½ o'clock, Mechanical Dentistry.

Arrangements have been made for hotel accommodation. You are particularly requested to attend, and have your name enrolled as a member,

An answer will oblige.

LEO. H. De LANGE,
Secretary.

THE WISCONSIN STATE DENTAL SOCIETY,

Will be held at the Newhall House, in Milwaukee, on Tuesday and Wednesday, July 8th and 9th, 1873. Arrangements have been made with the proprietors of the Newhall House, by which the members of the Society will be boarded for \$2.00 per day. A large parlor will be furnished for the use of the Society, free of charge.

Members are requested to bring Instruments, and such Specimens as they have, which may be of interest to the profession.

WM. DECKER, S. M. GILMAN, S. E. WADE, Executive Committee.

Editorial.

AMERICAN DENTAL SOCIETY.

The thirteenth annual meeting of the American Dental Association will be held at Put-in-Bay—an island in Lake Erie, twenty miles from Sandusky, and forty miles from Toledo—commencing Tuesday, August 5th, at 10 A. M.

ROUTE.

Steamboats leave Detroit for Put-in-Bay at 9 A. M., arriving at 2 P. M. Boats also leave Toledo, at 8 o'clock daily, for Put-in-Bay. Passengers from either the West or East on the Lake shore and Michigan Southern Railroad, or from any of the roads terminating or passing through Sandusky, can take boats for the island, at 9 A. M., and 3, and 7:30 P. M. Passengers on the Baltimore and Ohio Road arrive at Sandusky at 6:30 P. M., in time for the 7:30 boat. M. S. DEAN,

Secretary.

We trust that the notice given above by the Secretary of the Association will receive attention by all our readers. And in addition we will say that arrangements have been made for round trip tickets from Cincinnati to Put-in-Bay for \$8. All

who can come by way of Cincinnati can avail themselves of this rate by applying by letter or otherwise to the Editor of the REGISTER, or to Dr. H. A. Smith, of this city. The route will be by the Hamilton & Dayton R. R., via Toledo; taking the train at the Hamilton & Dayton Depot at 9 P. M., Monday, Aug. 4th, arrive at Toledo, at 7 o'clock next morning, and take the boat at 8 o'clock A. M., and arrive at Put-in-Bay at 11 o'clock A. M., having a delightful run of forty miles along the most beautiful islands of Lake Erie.

At Sandusky boats connect with trains morning and afternoon for Put-in Bay.

Arrangements have been made by which ample accommodations will be made for all the members of the Dental Association, and their friends who may accompany them. In order however, to make sure of comfortable quarters, every one should notify the proprietors of the Put-in-Bay House, or the proprietor of the Beebe House, of their wishes in this direction, stating the kind of rooms and the length of time they want them, as there will at that time undoubtedly be a very large number of visitors upon the Island.

The fare at the hotels, for all attending the Association, will be \$2 per day. We trust that upon this occasion there will be such an outpouring of the dental profession as has not been seen for years; to this there are many inducements; the beauties of the place render it one of the most attractive to be found anywhere in the country. The consideration which the proprietors of the hotels have manifested towards the members of our profession not only prospectively, with respect to their meeting, but for several years past to other societies of our profession, is an additional inducement to go now. Let all go who can.

TRICHLORACETIC ACID.

This acid, which is one of the best substances known for cauterizing warts, corns, etc., may be conveniently prepared by mixing chloral hydrate with its own weight of strong nitric acid, and exposing to sunlight for three or four days. The product is distilled, and the portion coming over at about 195° C. is collected apart.

OHIO DENTAL COLLEGE.

The next regular session of this institution, will begin on Wednesday the 15th of October next.

At which time it is desirable that those who intend to enter the institution, should be present. The chairs are filled by the members of the faculty of last year, except those of Clinical, and Mechanical Dentistry. To the former Dr. J. I. Taylor has been appointed, and to the latter Dr. F. A. Hunter, both of Cincinnati. It is the determination of all interested, to make each succeeding session more thorough and efficient than any preceding, if possible. The state of the profession, and the wants of the public, demand constant progress, and anything that contemplates either a stand still or a retrograde movement is greatly to be regretted. All the ability and facilities of the College, will be devoted to the best interests of those who place themselves in its care.

There is a strong call to all who propose to enter the profession, to make the most thorough preparation, and to accomplish this, the most persevering application and industry is necessary.

DENTAL MEETINGS.

It was recently our privilege to attend the joint meeting of the Indiana and Kentucky State Dental Societies, held at Louisville, June 4th and 5th. Quite a goodly number of each Society was in attendance, and very interesting sessions were held, nearly all present taking part in the proceedings.

It is a matter of great interest to note the growth and progress of the working societies of our profession, all over the country. The times of prejudice, selfishness, exclusiveness, and self-aggrandizement, are passing rapidly away, and many are pursuing a course of study and investigation in science and art from higher motives. This is true in all legitimate avocations and pursuits; but we see it more clearly in our profession, and nowhere to better advantage than in associations. The desire to learn and know the

truth is increasing;—to know it for its own value, and not for some ulterior motive. Union meetings of local societies is an excellent idea,—one that can often be employed to great advantage,—affording opportunities for comparison of ideas, modes of practice, and opinions, that cannot be obtained in small local societies. This suggestion must not be regarded as a discouragement to local societies. These ought everywhere to abound and so cultivated as to yield abundant fruit.

MICROSCOPIC OBJECTIVES.

Mr. E. Gundlach, the famous maker of microscopical object glasses, formerly of Berlin, Prussia, now of Hackensack, New Jersey, has just completed for us two objectives, a 1-6th and 1-24th immersion. Dr. J. J. Woodward, the distinguished microscopist of the Army Medical Museum at Washington, to whom we submitted them for examination, in a letter to us speaks of their performance in the most complimentary manner, saying: "I am sorry you were not present at my trial of the objectives, for I think you would have been pleased with their performance. The 1-6th did admirably on *amphipleura pellucida* (by sunlight), and is, I think, correctly named. At 50 inches from micrometer to screen it magnified 300 diameters, when corrected for uncovered objects; 340 when the collar was fully closed. The 1-24th showed the nineteenth band of Nobert, and resolved *amphipleura* superbly. It is not correctly named according to the English nomenclature; at 50 inches from micrometer to screen it measures 850 diameters at the uncovered point; 1150 when fully closed. It is therefore properly about a 1-17th. I suppose Gundlach named it by its performance when closed, which is equivalent to that of a single lens, of 1-23d focal length; but that is not the way we do in this country and England.

"When the price is taken into consideration, both of these objectives are wonderfully good."

Wales' 1-15th, as tested by Dr. Woodward, and reported

by Dr. Richardson, of Philadelphia, in his work on Medical Microscopy, resolves only the seventh band of Nobert.

The English, as is well known, are in the habit of under-rating the magnifying power of their objectives; Powell & Lealand's 1-16th, for example, is more properly a 1-20th. Mr. Carpenter in his work on microscopy speaks of this disposition on the part of English makers to rate their objectives at less than they should be, as, for instance, he states, a power that is usually a fifth is named a quarter, etc.; for it is to a manufacturer's credit for a quarter to do the work of a fifth, or for any lower power to do that which ordinarily could only be expected by a higher power. Mr. Gundlach, however, in his mode of measurement in rating the power does not do his lenses justice when compared with those of American and English manufacture.

In our own hands the performances of the objectives made for us by Mr. Gundlach are fully equal to those of the most celebrated makers of the world. In the few days we have been in possession of them, we have been using them in resolving diatoms, of which we have a very large number by different mounters; and we have had no difficulty in the resolution of the most difficult tests with either the 1-24th or 1-6th. We have a Powell & Lealand's 1-16th immersion, of which Mr. Powell said that a better one had never left their manufactory, and up to the present time we have been able to resolve, with either one of the lenses which Gundlach has made for us, all that we have been able to do with it. A 1-6th that resolves "admirably" the markings of *amphipleura pellucida*, a test that is considered by some, if any thing, more difficult than the nineteenth band of Nobert, must hold the highest place among objectives of the finest definition.

A matter, too, of consideration with the majority of persons in the purchase of Gundlach's objectives is their great cheapness. The price of his 1-6th is only \$26 (gold). The price of Tolles' 1-6th, of a like angle of aperture, is \$75 (currency). Gundlach's 1-24th is quoted at \$55 (gold); Tolles' 1-20th at \$190 (currency).

We regard an objective that is able to resolve in a most

satisfactory manner all the most difficult tests found among the diatoms, which Gundlach's can do, the price of which is only about \$30 currency, as one of the remarkable things.—*Cin. Med. News.*

THIRD DENTITION.

Lee R. McFarland, of Bedford, Mich., has met with a case of third dentition—"a second molar on each side, one bicuspid and a canine."

These unbidden guests, it appears, made their advent under a well fitting artificial denture, and not only upset the denture and completely overturned the expectations of the patient, but put to shame the representations of the practitioner whose "plate wouldn't fit." He asks: "Will the patient have any more? Would it be good practice to extract those he has already?"

DIAGNOSIS.

The difficulty of detecting the beginning of decay on proximal surfaces of teeth that are firmly crowded together is often very great. This is sometimes effected by wedging apart, and occasionally the color will prove a sufficient indication. If there be not time for the former and the latter fail, another method may be employed, which I believe was first proposed by Henry S. Chase. Force linen thread between the teeth. If it is cut or very much roughened while passing between the bodies of the teeth and below the grinding surfaces, there is a roughened and abraded enamel surface.

RECOVERING SILVER FROM RESIDUES.

J. Kruger recommends to shake up the argentiferous liquors with phosphoric ether (phosphorus dissolved in ether) until the precipitate produced is of a uniform black color. The precipitate is then separated from the mother liquor, washed, and boiled with caustic potash solution. Pure metallic silver is the result.

A NEW THING.

Dr. J. W. Baxter, of Vevay, Ind., has invented and constructed a machine for cutting Arkansas stone into small wheels, cylinders, and cones—indeed, into any desirable form for dental purposes: and such is its perfection, that the work is done rapidly and very accurately.

They are mounted upon mandrels, and are used in the Morrison Lathe, and may be mounted for any other lathe. They are very valuable indeed, and for a variety of purposes, which will readily be suggested to the mind of the skillful operator. Of the uses to which they are so well adapted, we find none more effective than that of cleaning the teeth—removing the deposit which so greatly discolors them, adheres firmly, and is so difficult to remove by the ordinary means. These little Arkansas stone cones are, for the purpose, more efficient than anything we have ever used. They should be in the hands of every dentist. Dr. Baxter will doubtless have them in the market soon.

He also makes a diamond point burnisher, from what is known as the Alaska diamond, that is far superior to any steel brusher. No one after having become familiar with the use of these things, would be content to be without them.

NICKEL.

We see by a paragraph in a foreign scientific journal that the manufactures of German silver have presented a petition to the Reichstag against the introduction of a nickel coinage in the German Empire. They urge that the price of nickel has recently risen from $1\frac{1}{2}$ to 4 thalers (the thaler is worth about 70 cents, gold), and that German silver has in a single month advanced 8 thalers per hundredweight. In England, as we learn from other sources, it has gone up, within a year and a half, from 4 shillings to 16 shillings a pound.

It is only within a few years that this metal has become of much importance in the useful arts, and it appears that already the demand for it exceeds the supply. The total annual production amounts to only about 600 tons, and full one-half of this is required for manufacturing purposes in England alone. It is now employed for coinage in Belgium, Switzerland, and the United States, and if it should be adopted in the German Empire, the amount absorbed in this way would soon interfere seriously with its application to industrial uses. If it were abundant there is no doubt that it would be far more extensively employed in the arts. Its tensile strength is almost one third greater than that of iron, to which metal it bears a marked analogy in most of its properties, and it is also less liable to rust in air or water. German silver is simply a brass to which from one-sixth to one-third of nickel has been added, giving it a silvery white color, and at the same time greatly increasing its power of resisting chemical agents. As a foundation for electrotyping with silver, it has the advantage over copper of not showing a red color upon worn edges. It is also beginning to be used itself for electroplating other metals, and this is likely to become an important branch of manufacture.

The increasing demand for nickel will doubtless stimulate the search for new sources of supply; but until these are discovered it is evidently desirable that the use of the metal for coinage should not be extended. How small the present supply *is* will perhaps be clearer to our readers if we compare it with that of one or two other metals. Of copper, for instance, the annual production is about 65,000 tons, or more than a hundredfold greater; while of iron more than 10,000,000 tons are yearly added to the immense amount absorbed in the industries of the world. On the other hand the annual production of platinum is only from 35 to 50 hundredweight, or an average of about *two* tons.

THE
DENTAL REGISTER.

VOL. XXVII.]

AUGUST, 1873.

[No. 8.]

PROFESSIONAL ETHICS.

BY G. P. HOLMES, LAWRENCE, KANSAS.

The subject of professional ethics should receive the careful consideration of every dentist. It has much to do with his success or failure in life. Let him enter society with a refined polished manner, an amiable desire to please, and he will be met in a like spirit. Extend a friendly hand of greeting, and kindred greetings meet you on every side. On the contrary, rude manners, harsh words, sharp thrusts will be met with resistance and sharp retorts. The dentist especially has need of these accomplishments. Society and his profession expect much of a professional man, and his success is made easier by their possession. He depends upon the patronage of the public, then let him add to his professional skill, then when if possessed of excellent qualities, the requisite amount of energy, his road to success will be found easy.

The dentist owes a duty to his profession; to it he must be either an ornament or a disgrace. The profession has a right

Aug-1

to demand that all its members shall be somebody, that their works shall show them to be *worthy members*. The Drs., M. D. and D. D. S., upon cards and signs are but little guarantee of ability. Society has so often been cheated by them, that he who flourishes those titles most, ever making them conspicuous, is looked upon with distrust. They are no mark of brains, their profession, or rather the knowledge which their possessor is supposed to have, is highly important. They should only be regarded as an evidence that the object had been sought for—not as the end sought. Let every one prove his ability, and his manhood, and society will extend to him its friendship and its patronage.

Were all alike possessed of a desire to deal fairly and honorably, having a proper appreciation of our profession in view, there would be little need of a Code of Ethics. That some acknowledged standard is desirable, I think none will question. The highest and most reputable organization in our country have so thought and acted, and to-day the Code of Ethics of the American Dental Association is adopted by most local and state organizations.

The primary object of these organizations is to disseminate knowledge, and elevate the standard of qualifications. If so, then whatever tends to retard dental progress, should be combatted, discountenanced and removed through their influence. It is highly important that a dental association should set its standard high, that it should require that all who become members shall be possessed of a good moral character, shall occupy an honorable position in society—where they are best known, and that if they are not well qualified they shall be earnest seekers after knowledge in the profession.

The Dentist should be a well bred gentleman, affable and kind, gentle though firm in his dealings with his patients. He is called upon to inflict severe pain, let him encourage his patients with a kind word, show them that whilst he inflicts and makes them suffer, he is not devoid of feeling.

The Dentist should be clean. The quality of his clothes is of minor consideration, but it is important that he be clean, with him especially is cleanliness a virtue, which he cannot afford to be without.

His office should be orderly, his instruments, chair and sur

roundings, must receive daily attention. It would seem that these were so plainly and evidently necessary, that a reference to them would be unnecessary, but many neglect them to the disgust of their patients, and to their own detriment. Those who have students under their charge neglect a most important duty, if they fail in teaching the necessity of cleanliness.

As members of the dental profession we are bound to maintain its honor, and labor to extend its usefulness. He that will not or does not use his influence to promote the interests of his chosen profession is recreant to his duty. He who sits supinely down in his office and does nothing aside from his daily routine of practice, or who becomes so engrossed with business as to leave no time for improvement, is a dead weight to be carried along by the energy of other members. Others there are who are so possessed of self-conceit as to close all avenues of improvement—who look upon dental associations as bores, and upon their regulations with contempt. There may still be hope for them, for after years of experience they may be brought to comprehend how little they know, and learn of their own insignificance. Still they are to be classed among the dead weights to be borne along by others if at all in the onward march of improvement.

The subject of dental advertising demands attention. Among all the list of causes none tends more to hinder our progress than the custom of advertising, calling attention to the wonderful skill, the acquired fame, the unsurpassed facilities, of the undersigned, who is perhaps a graduate, or has practiced successfully for a long time in other parts, to produce *first-class* and at the same time the cheapest work in the town! This style of advertising was once excusable—many of us no doubt can look back, without pride, upon some of our own productions of this kind. Our education was at fault. There is no longer excuse. That form of advertising hasn't an advocate in all our literature. Thanks to associated effort, to dental literature, and dental colleges. It should receive the most public disapproval of all our associations, and through the influence of its members be driven from among us.

In a report presented at the last meeting of the State Association the Committee say, "That after careful investigation,

reading and comparing hand-bills, posters, newspaper advertisements and show cases, they had come to a stand still—hardly knowing whether we represented a profession or a trade—but judging from the matter investigated they were almost led to the belief that it was all “bosh” about “Profession” and “professional standing.” How long these practices shall continue depends in a great measure upon us. Let us adopt some standard, that in our practice and teaching we will tend to elevate our vocation to a place among the learned professions.

The code of ethics of the American Dental Association is a high-toned professional production. It is calculated to expand and elevate the mind of the dentist, to point out plainly and forcibly his duties to himself, his patrons, and the profession. Many of the unprofessional customs, which are so well known to you as belonging to men of our profession in Michigan, and even in this Association, are there properly rebuked. The line of duty is in many ways clearly pointed out to the practitioner. With justice and dignity it effectually negatives many a mistaken notion of professional ethics.

MECHANICAL DENTISTRY.

BY J. F. CANINE, D. D. S.

GENTLEMEN :—The subject of Mechanical Dentistry having been assigned me, I will on the following pages present a few thoughts on the subject. As the object of these meetings is to elevate our profession, let us not lose sight of any one branch while attending to the advancement of another. Therefore, I deem it proper at the outset to say, that mechanical dentistry, in the dental associations of the present day, has been ignored, or at least it has been treated with so little consideration that it has almost been lost sight of, notwithstanding a large proportion of the dentists are occupied the greater part of their time in laboratories practicing this branch of the profession. I have no doubt but every dentist here to-day will corroborate

the statement, when I assert that our greatest difficulties are found in mechanical dentistry. Then why treat it so lightly? Is the problem too hard to solve, or is it because we are afraid we might be styled *mechanical* instead of *operative* dentists? I hope not—for it is my candid conviction there are fewer men in our profession to-day masters of this department than of any other branch of the profession.

As I have attempted to write upon this subject, I will commence at the first step in making artificial dentures. I will merely allude to the preparation of the mouth, and pass, briefly as I can, over the several stages necessary to complete the process. The extraction of the teeth I do not care to discuss. But I wish to make a suggestion in regard to trimming down all the prominent parts of the alveolar process with excising or cutting forceps, allowing the gum to close over and heal smoothly. This should be done at the same sitting that the teeth are extracted. It will also be found that there will not be near as much shrinkage. In cases of temporary sets, where this is properly done, the teeth are worn with much more satisfaction than where nature is left to do its own work.

The first step after the preparation of the mouth is taking the impression. Full or upper sets I take in Plaster Paris. There are many failures in this particular of the work, from a lack of knowledge of the proper manipulation. Judgment and tact are indispensable in producing the most desirable results, a perfect impression. To get this, select a cup well adapted to the mouth, soften a piece of wax, (if an upper impression), and place on the posterior edge of the cup, and across from one condyle to the other, place the cup in the mouth and press it up to its place, then remove and trim the wax, leaving but a very narrow surface to come in contact with the posterior platine surface of the mouth. It should extend a little beyond where the plate should go, though not so far as to gag the patient. The wax is placed there to prevent the plaster from sliding back on to the soft parts, and annoying the patient. In preparing the plaster pour sufficient water to mix the requisite amount in a cup, adding a little salt to quicken the setting. Plaster is added until it becomes a thin

batter, when it should be well beaten with a spatula until it is smooth and receives a tough appearance.

It is now ready for placing in the impression cup, and should be carefully watched until the proper moment for inserting it in the mouth, when it should be firmly pressed to its proper place, and allowed to remain until the plaster is well set. The time requisite is from one to two minutes.

The lower impression is taken in the same way, only leaving out the wax. In partial sets I use wax first, and frequently nothing else. If I wish to use plaster I cut away the wax where the plate is to be, and fill the impression thus prepared with plaster as previously described. Place it in the mouth, being careful to get it in its proper position and up to its place. After the plaster is set the impression is removed, and we are ready to make the model.

To prevent the cast from adhering to the impression use soap and water made into a suds. After the impression is thoroughly saturated with this, wipe off the scum from it with a mop of cotton. Casts made in this way will readily separate by rapping on the cup and cast alternately, unless under cuts prevent.

For the articulation arrange wax on plates fitted to the casts. Trim the wax as you imagine the teeth should be. This is in articulating full sets. The wax should be allowed to become hard. Each plate should be placed in the mouth separately, and trimmed until the muscles are relieved and the plate remains in place. This is of great importance, to allow freedom to the lips that they may assume a natural appearance, by which the length and fulness of the teeth may be determined. I cannot impress too strongly the necessity of a thorough knowledge of this part of the work.

It is the cause of all our troubles, or at least many of them. This knowledge is woefully deficient. The results of ignorance in this particular intrudes upon our eyes in ghastly specimens of artificial teeth wherever we go, on the street, at public gatherings; or if you like take a broader field, and travel East, West, North or South, and you meet the same revolting spectacle.

Then why are we not trying to overcome these deficiencies?

Full well I know what an imperfect articulation has cost me. More trouble and annoyance is experienced from this one cause than from all others in constructing artificial dentures. Hence the importance of carefully adjusting this portion of our work accurately, as not only time and labor will be saved, but the accomplishment of the desired result fully and perfectly obtained.

After the trial plates are properly prepared, the wax on them, and trimmed, place the lower piece in the mouth, heat the proximate surface of the antagonizing upper wax, place it in position, and direct the patient to close the mouth ; the hard wax will make its impression on the soft ; the upper plate is removed and trimmed where it is necessary, warmed again on the surface, and replaced in position ; this is continued until the bearings are level, and the jaws are the proper distance apart ; require the patient then to open his mouth wide, and direct him to *drop* his back teeth together. I use this phrase in order to decoy my patient to a proper occlusion of the jaws instead of a false one, which is commonly the case. By directing the patient's attention to the back teeth we avoid the projection of the under jaw, and when you tell the patient to *drop* the back teeth together, he is apt to do so without thought, thereby obtaining the natural position, just what we want. With the jaws properly closed, draw three lines perpendicularly in the wax, right, front and left, and carefully remove from the mouth. In articulating a full upper set, place a small block of wood on the trial plate, place it in the mouth, and trim the wood until it allows the jaws to stand the proper distance apart ; put softened wax on the ridge and over the wood, and direct, as before described, to close the back teeth, press the wax down well around the lower teeth, then remove to the articulation. In partial sets, from one to six teeth, it is my common practice to get the *bite*, at the same time I take the impression. I do this, by simply warming wax and placing it in the vacant spaces where teeth are to be inserted, requiring the mouth to be closed tightly, while the wax is pressed around the teeth. When the wax is placed upon the model the plaster should be trimmed around the teeth to allow the wax to go to its place perfectly. In using gold, or other

swaged plates, the wax should be arranged on the plates, and the articulation obtained in the way described, both for partial or full dentures.

The trimming and preparation of the plaster model is of more importance than it would at first seem to most practitioners. Doubtless a vast difference will occur to some of you, between making a close fitting plate on a model, and a close fitting plate in the mouth. You are all aware that a cast has the same unyielding density over its entire surface, while the mouth and particularly the palated portion, has hard and soft tissues, yielding and unyielding in their nature. In order to remedy these differences it is necessary to scrape away portions of the plaster model to correspond with the soft parts in the mouth, trim according to the case, if the roof is flat, trim but little, if soft and spongy, trim the part of the cast that represents that part of the mouth. Trim all models in proportion to their width and depth. Deep wide mouths should be trimmed more than shallow or flat ones, trim from the centre of the alveolar ridge to the palatal surface, until you reach the roof or hard parts. After the plate is made it frequently becomes necessary to relieve that part of the plate resting on the condyles, in order that it may go up to its place in the roof. We find others that rock in the mouth, and seem to ride in the roof. We should always be able to see what, and where, the difficulty is, in order to remedy it without injuring the work. Many plates are damaged beyond redemption by attempting to make them fit, without knowing what the matter is. This I think occurs most frequently in partial sets; some instances in my practice I can recall, where I have defaced their beauty and utility, by grinding and trimming where it was not needed.

Do not trim or deepen your plaster models by guess; but shape the trial plate to the mouth, in the palatine surface and elsewhere, remove and place it on the model, and trim it until the plate fits. In snagged plates this practice will be found most desirable.

Concerning metallic dies, and swaging plates, I will offer a few suggestions which may not be familiar to all present. I mould in fine sand, using a flask in two sections, and taking but a little more than I wish the plate to cover. With a camels

hair pencil I apply fine soap stone or French chalk; put on top upper section of the flask, and dry the mould well, it is now ready to receive the metal, of which I make the die, place the flask on an anvil, or some iron block *after* the zinc is melted, then pour the metal and set the melting cup or ladle on top of the flask. The cold anvil chills the face of the die, while the hot metal in the cup or ladle keeps the top in a melted condition, until the face or the bottom of the cast is thoroughly hardened, causing the largest shrinkage to take place on top of the cast. Lead is used for counter dies. In swaging plates I use a fusible metal for a core to first drive down the plate in the roof or palate, then use a clamp to hold die and core together, while with a horn mallet the outer edge of the plate is made to conform to the alveolar ridge. During this process the plate should be frequently annealed. Two or three counter dies of lead are required to complete the process of making accurately fitting plates.

I will notice briefly some of the materials commonly used as bases for artificial teeth. "Nature's best imitator" celluloid, (formerly *Rose Pearl*,) pyroxline, and coroline, are among the things that were. None of these collodian bases occupy any position, except in the minds of their owners. They are not fit even for temporary work, and no dentist having any regard for his future reputation, will use any of them. Rubber in the hands of competent operators, and especially in the hands of a bungler, can come nearer filling the bill for temporary and cheap sets of teeth, than any other substance now known. But rubber, does not suit all cases, as the "*par excellence*" of bases. Gold will even claim its pre-eminence, it has stood the longest test of time and experience. *Continuous gum* work, on platinum and iridium, makes strong and the most beautiful work known to the profession.

But when a patient leaves to my judgment, to make the best set of teeth I can, taking everything into consideration, I invariably recommend gold, with rubber attachment, a case well made in this manner will carry with it, character and permanence; such as years cannot tarnish. Let us then em-

ulate all of the higher and nobler attainments of our art; shunning all things which degrade, detract from, or in any degree lower the standard of our profession. But on the contrary let each of us contribute all our power and energy, to exalt and perfect, this, our vocation.

ARTIFICIAL CROWNS.

BY B. O. DOYLE.

*Read before the Kentucky and Indiana Dental Associations,
June 6th, 1873.*

It is a fact well known, that of late years most, if not all of the improvements in our profession, have been made in the operative department, and mechanical dentistry has been almost entirely overlooked. Therefore in presenting what few thoughts I may, I will attempt to treat of a subject, belonging partly to mechanical dentistry, or at least requiring some mechanical skill. While old, this subject is one of interest and importance, and at times of great vexation, viz: the insertion of artificial crowns, on the natural root. It is well known, that very frequently we are called upon to exercise our best skill for the preservation of the roots of the incisor and cuspid teeth, after caries has destroyed, or so impaired the crown, as to preclude the possibility of restoring the tooth by filling. In such cases, the insertion of an artificial tooth on a pivot is indicated and no doubt would be more frequently practiced, but for the difficulties and uncertainties, with which we are beset in the performance of this operation as ordinarily done. From the early days of our profession, up to the present time, the practice of inserting pivot teeth on wooden pivots, has been followed; and while many cases have stood the test of time, a large majority have proven utter failures, and the causes for these failures are so well known to all of you, that they scarcely need mention. Wood, no matter how tough and well seasoned, will expand by the absorption of moistures, and in

many cases will split the root, or, if this does not occur, it will become so soft and yielding, as to allow the artificial crown to be forced from its proper place in the arch, and thus defeat the end we desire to attain. Another great objection to the use of wooden pivots, is that it is almost impossible to deviate them from a straight line, without greatly impairing their strength. I am fully aware of the many "*pet plans and devices*" which have been recommended, such as filling the interstices with "*Hill's stopping*" "*Guilloi's Cement*" etc., but no matter what aids are used with wooden pivots, the great aim, "*durability*" if not defeated, is at least rendered uncertain.

We have all heard of and some of us have seen another method of inserting artificial teeth, in which plate teeth are back lined with gold plate, and have a pivot of gold soldered thereto, and the cavity in the root, if funneled out by decay, is filled with gold before the tooth is applied. But the objection urged against this method is generally by the patient, and is the great cost, and besides so much time is occupied in the performance of this method as to make it exceedingly irksome to both patient and operator.

What we need in the insertion of pivot teeth is some method, by which we can reasonably hope for success without the expenditure of so much time, and which can be practiced at a reasonable fee, so as to bring the operation within the reach of a majority of our patients, who are anxious to preserve the natural organs to the utmost, but are not willing to pay what might seem to them extravagant fees.

I have practiced the following method for some time, and as it has given every assurance of success, and I have heard of no failures, I will proceed to state it; however, without claiming anything especially original or novel, we will take it for granted, that the root has been properly treated, and the apex and part of the nerve cavity thoroughly filled, and the adjacent parts free from inflammation. The root having been prepared by filling, etc., an ordinary pivot tooth is then selected, and properly fitted. A pivot should then be made of heavy gold plate by forming a tube, being careful, however, not to bring the edges entirely together. This should fit the pivot hole tightly, but without compressing the sides

of the tube sufficient to bring the edges together. The metallic pivot is then placed in the tooth and applied to the root being of the proper length &c., the pivot is then secured in the pivot tooth with gum shellac melted over a spirit lamp. The tooth and pivot are then secured in a notch cut in a small piece of soft wood by a thin paste of "*Guilloi's Cement*." By passing the stick armed with the tooth through the flame of the lamp several times, the setting of the cement will be greatly hastened. A napkin is then placed over the lips, and the cavity in the roots having been thoroughly dried with the hot air syringe, is then partially filled with powdered shellac. The wooden shaft is then taken up, and the tooth and pivot warmed over the flame until they have become warm enough to melt the gum, when the tooth can be forced home with a few light taps of the mallet on the end of the wooden shaft. A few drops of water from the syringe will chill the shellac, and the tooth will be firmly anchored.

The reason why the edges of the metallic tube should not be brought together, is that the expansion of the metal when heated would burst the tooth. The advantage of this method is its simplicity and permanency. It is a well known fact that shellac is insoluble in water, or even dilute alcohol, consequently the fluids of the mouth have no perceptible effect upon it.

DENTAL MISCELLANIES.

BY H. SCOTT.

I cannot but feel gratified that Dr. Driscoll has permitted me to remain in existence, until after the meeting of the Mississippi Valley Association, in March. I had felt it a duty to publish my experience in the use of the oxychloride of zinc in capping, and generally, and did in connection with them, express my views somewhat boldly. I asked ten years trial for it, but only one or two have elapsed before a culmination seems approaching. I suppose it is allowable for one to express his gratification at being sustained in his theories and experiences

and so I can do no more than to refer my friend to the discussion on the 251 page of the REGISTER of June, for the opinions of leading men of our profession on the use of the os artificial.

BREAKING TEETH.

The breaking, or crushing off of a tooth in attempting to extract, and failing at the same time to remove the roots, is at all times a sore annoyance, but doubly so when the pulp is left protruding. I suppose that every operator knows that accidents of the kind are liable to happen, when all the care has been observed that is possible, with the use of the best adapted instruments, in the most careful and skilled hands. Such an accident is most sadly perplexing, because there is not one patient out of ten, who either can or will excuse the Dentist, but on the contrary will secretly feel, and not infrequently publish, that Dr. C— or D— broke a tooth for them, and in such a way too as not to disguise the dissatisfaction which, to others, conveys the impression that C— or D— is at least not skilled. I have seen many exceedingly perplexing cases of the kind, where I was compelled to split the roots and “dig” them out as well as I could, afterwards, and have known my patient on subsequent cases if tooth-ache occurred, to go to other offices. They are not to be blamed, but nevertheless it is humiliating. A molar not long since came half way out from its socket and then hung, while I tortured and racked it in all directions for several seconds, when it parted just above the bifurcation, and left both roots so firmly held in the bony arch, that for my life I could not get them away without separating, and then one of them fell back in the socket, and annoyed me ten minutes longer. A month afterwards the lady went to my neighbor and had a lateral incisor removed with great care, when she awarded him, the eclat of a fine tooth puller.

THIRD FORMATION.

There is a lady residing in this community, aged a little over seventy years, who is wearing a full upper set on rubber. I believe it is about five years since she had her artificial denture. The case belonged to my partner, but I have known the lady intimately for many years. At the time the case was made, she

had a fine upper mouth, with alveolar ridge very uniform. Within less than a year after the plate was set, she came back to say that a root had been left in her mouth, examination revealed a white glassy point protruding, at the place of the right cuspid. It was exceedingly firm and could not be shaken. It is there yet. It is a well formed cuspid, of about twice the size of the natural tooth, and much whiter than the original set, it has been repressed by the wearing of the rubber plate, and has not been projected far, the gum has wasted around it, and it is somewhat bare, but such are the fears of the old lady that she cannot be induced to have it taken away, though it interferes materially with the wearing of her plate.

MANIA.

Can anything be done to counteract the growing mania everywhere found, of ladies, both single and married, insanely sacrificing pretty good natural teeth for the prettier ones the dentist can furnish? Who are to blame? I have met several young ladies recently who wanted their back teeth filled, but the front ones, though very little, decayed, in some instances. They said they were going to have them pulled out because they were "crooked and did not look well," and have a new set. So fixed were they in their minds on committing the sacrifice, that all my philosophy was wasted in trying to dissuade them. Such devotion to fashion is pitiful, and lies at the door of either the dental profession, or the leaders of fashion, or both. Such wicked and shameful pride leads to, and probably justifies the belief, that, should the project once be started, people will be found cutting off their pug and prominent noses in order to substitute better appearing ones.

INTERESTING CASE.

A lady of about fifty years of age called at our office for advice some three weeks ago. The left side of her face was very much enlarged from the sub-orbit down to the neck, and was very firm and painful. Upon looking into the mouth it was found that the gums along the left lower side were very much enlarged, and discharging grumous foetid, sanious fluid, while two or three hard, jagged, and discolored points, were standing out above the surface. The probe discovered a large

piece of exfoliated alveolar bone, which seemed to be held loosely by the super incumbent mass of diseased soft parts. Dr. Crider divided the gum, and with a stump forceps easily removed the exfoliated bone, which was honey combed, and exceedingly repulsive in every way. It proved to be the alveoli of the second bicuspid, and of the first and second molars. She had her teeth extracted on that side several years before, and had suffered greatly ever since; and had been undergoing treatment at various times, and by various treatment, for the reduction of the swelling. Two or three subsequent incisions, with carbolic acid and other appropriate injections, by my son, J. C. Scott, were effectual. The lady is now well
Lancaster, O.

Proceedings of Societies.

THE ANNUAL MEETING OF THE KENTUCKY DENTAL ASSOCIATION,

In connection with the Indiana State Dental Association, was held June 5th. and 6th., at Louisville, Ky.

MORNING SESSION.

The joint meeting of the State Dental associations of Kentucky and Indiana, was called to order at half-past ten o'clock.

After prayer by Rev. J. H. Heywood, the president of the Kentucky Dental Association, W. H. Goddard, welcomed the Indiana association in the following words:

WELCOMING ADDRESS.

Mr. President, and Gentlemen of the Indiana State Dental Association:

It becomes my official duty to extend to you, in behalf of the Kentucky State Dental Association, a welcome to our State, our city, and our fraternal hospitalities; and I fulfill the duty with all my heart; for in this case, official duty becomes the highest personal privilege. Yes—I regard it as my personal good that I am the organ of our Association in offices

friendship and courtesy which enlist the warmest sympathies of which I am capable.

Accept then, Mr. President, for yourself and associates, the welcome which I extend to you; and believe me, the cordial words of greeting which I utter are truthful exponents of our feelings. Our hearts are on our lips, and in the grasp of our hands. Welcome among us—thrice welcome! Welcome to our homes, our fellowship, our hearts! We thank you for the opportunity you have given us of evincing our fraternal regards; and we trust that when you leave us to return to your homes, it will be with the bands of amity and friendship between our two societies more strongly cemented than before, and with personal ties renewed or freshly created which shall not be sundered this side of the grave!

By the programme of arrangements for our order of business, we are to join together as one body for discussions and interchange of thought and experience, and to that interesting feature of the occasion, let me devote a few passing words.

I am irresistibly led to notice the delightful contrast which the circumstances of this occasion present to the spirit, which in by-gone years marked the prevailing attitude of our professional brethren, each to the other. For it is but a few years since each one of us considered it his duty to himself to look with suspicion on every professional brother, to conceal every new thought, every new discovery, closely within his own breast, his or own laboratory; yes, even, perhaps to lock his door against the entrance of a brother dentist, who might perhaps, if admitted to confidence and intercourse, pillage some of the methods on which his host prided himself, and use them in his own operations.

There was no fraternity of feeling, no reciprocity of good offices, no free interchange of suggestion and experience. But we have come to feel, thank God, that all was contemptible by-play, unworthy of men of thorough scientific knowledge and progress. We have come to believe that when any man throws his contributions of thought, experience and skill into the common stock, he grandly benefits himself, as well as the world at large. This magnanimity and philanthropy return home to bless him more abundantly. Fraternity is now the word!

Knowledge loves to have the votaries who sit reverently at

her feet clasp each other's hands in a close embrace as they do so, for her sake, for the world's sake, and for their own sakes ! By as much as we claim to be lovers of truth and lovers of science, above the petty arts of the selfish and narrow pretender, we glory in the inter-communication of knowledge and good offices. Now all are brothers ; we are affiliated in associations ; we meet to impart all we know to each other, and to put each other, if possible, on a higher plane of power and possibility. We do not fear our instruments, our materials, or our knowledge, will be stolen from us. On the contrary, our offices, and laboratories, with all they contain are open to the examination of every worthy brother. Yes, and our hearts and purses are open too.

It is interesting to note that this is only the second instance of the union of two state societies in joint sessions for mutual discussion and improvement ; that of the Illinois and Iowa associations, which lately met together, having been the first. This is the second ; may it not be the last ! But may the exercises of this occasion so bind us together that we shall be eager for a repetition of the genial and profitable fraternity, and relations be this day inaugurated which shall be renewed with ever increasing luster and profit, so that in the far future our successors, when we are in our graves, shall rise up and call us blessed ! Once more, Mr. President, I tend you a most cordial welcome.

In response, the president of the Indiana Dental Association, Dr. Wells, returned thanks in the name of the members of the association which he represented, to the Kentucky Association for the kindness and fraternal feeling which has been shown toward them, which they would not fail to reciprocate when the occasion offered. They had come to seek knowledge and light with their Kentucky brethren. Although separated by geographical lines, they were united in bonds of fraternity and affection, and he hoped they would continue ever to be so.

Dr. Priest read the minutes of the previous meeting, which were approved, when the following subject, the first on the programme, was announced as in order :

“ Contour Filling—What are its advantages, what its per-

manency, and what the essential points to be observed?"

Dr. P. G. C. Hunt, of Indianapolis, who was selected by the Executive Committee to open the discussion on this point, arose and stated that he had with him a few casts of cases which had come under his treatment. He would prefer to change the subject a little, and would take his starting point at the last clause, namely: "What are the essential points to be observed?" The main subject under consideration was contour filling, or restoring a tooth to shape. He treated at some length of his methods of proceeding, saying that when a tooth is broken down, in whole or in part, the dentist must draw largely on his ingenuity. He presented casts of cases in which the teeth had been largely broken down, the teeth as restored often appearing to be principally constructed of gold. It is necessary to first remove all diseased parts, or all decayed bone, so as to have a healthful border for the filling. The next step is to secure the gold that there is no danger of its becoming loose. Screws he regarded as very valuable in some cases to secure contour filling, but he does not regard them as absolutely necessary in any case. He believed in letting the lateral enamel stand for lateral support for the filling. In many cases he fastened the filling by inserting gold wire in the root, an arrangement which he regards as more cleanly and more durable than the pivot tooth.

The advantages of contour filling are that it presents a smooth surface to the tongue, a better surface for mastication and for articulation.

In regard to permanency he had not much experience. He had been using the contour filling for three or four years, and found that it would wear, but not so rapidly as the two surfaces of bone would.

Dr. Hunt continued his subject at some length, describing processes and material. The discussion which followed took a wide range: over all the ground covered by the question as stated.

On motion the association agreed to meet at 9 o'clock, and adjourn at half-past 12 o'clock in the morning, and to meet at 3 o'clock and adjourn at half-past 6 in the evening.

After further discussion of the question presented for the morning session, the association adjourned at half-past 12.

AFTERNOON SESSION.

The associations were called to order by the President of the Kentucky Association, Dr. W. H. Goddard, at twenty minutes after two o'clock.

The consideration of the second subject was passed over, as no member had any remarks to offer.

Dr. Taft of Cincinnati Dental College, read the following paper on the subject of diagnosis in practice, by Dr. D. C. Hauxhwst: (For which, see June REGISTER.—Ed.)

On this subject Dr. Taft remarked, that he considered it a very important one, relating to the daily practice of every dentist. Teeth are affected by causes remote from the mouth. These cases it is difficult to treat without knowing these remote causes. Disorders of other organs will extend their influence to the pulps of the teeth, whether exposed or not. In some cases of uterine irritation affecting the teeth, it is difficult to trace the action or to understand the cause. This action Dr. Taft illustrated with various cases which he has treated. Other nervous affections will extend their influence to the teeth and the parts around them. Dentists should understand well the pathology of the system. It should be a subject of study with them; otherwise they are laboring in the dark. Considering the ignorance of some dentists on this point it is no wonder that their best operations often fail.

Dr. Taft continued on this subject for some time, endeavoring to show the necessity to the dentist of thorough knowledge of the human system.

Considerable discussion of the subject followed, and many interesting instances were adduced of cases bearing on this point.

The next question was taken up for discussion.

"Importance of conserving the vitality of the teeth, and the best means of securing it."

Dr Taft lead the discussion on this point, a discussion which was participated in by most of the members.

The chair announced the following operators for the clinics of the following morning: Drs. Keely, S. B. Brown and Merritt Wells, of Indiana.

Also, that at half-past 4 o'clock the next day, Dr. Seymour would fill a tooth at his office, on Chesnut street, between Second and Third, by request.

Dr. W. F. Morrill then read the following paper: (For which see JUNE REGISTER.—ED.)

It was moved that a publication Committee, consisting of three members—two from Kentucky and one from Indiana—be appointed. The motion was carried, and the President announced that he would name the committee the next day.

The joint session then rose, and the Kentucky association went into an election of officers, the following ticket being elected:

G. W. Priest, President.

W. M. Rogers, Vice President.

B. Oscar Doyle, Secretary.

J. F. Canine, Treasurer.

Board of Censors—Dr. Goddard, vice Dr. Redman, term expired.

Executive Committee—Drs. Priest, Canine, and Dunn, re-elected.

Dr. Canine extended an invitation to the members of the Associations, to attend a social "bee" at his house.

Following which the meeting adjourned.

JUNE 6th. MORNING SESSION.

The State Dental Association of Kentucky met at nine o'clock in the Hall of the School Board, at the corner of Walnut and Center streets, President Goddard presiding.

An amendment to the constitution, introduced by Dr. Doyle on Tuesday, was taken up for consideration, and its further consideration postponed until afternoon.

The President announced that he would appoint on the Publication Committee, the following gentlemen: Drs. W. F. Morrell, of New Albany; B. Oscar Doyle, and G. W. Priest. By virtue of the constitution, Dr. Doyle is chairman of this committee.

Dr. W. M. Rogers introduced the following amendment to article 6 of the constitution.

Resolved, That Article 6 of the Constitution of the Kentucky State Dental Association be so amended as to read: "The regular annual meetings of the Associations shall be held at such places as the Association from time to time may select."

This amendment was warmly discussed. The president ruled that the amendment must lie over one day, when it could be adopted by unanimous consent, failing which, it would have to lie until the next meeting, when a two-thirds vote would pass it. This ruling ended the discussion.

THE JOINT SESSION.

The two associations were then called to order in joint session, and President Goddard took the chair.

The consideration of the fourth subject was passed over by unanimous consent, and the next subject, which was stated as follows, was taken up:

"The Removal of Dental Pulp, and the After Treatment."

Dr. Doyle objected to passing this question without discussion. He would like to hear some one give the proper causes for the removal of dental pulp. He was requested to begin the discussion himself, and proceeded to give an instance of a case which he had treated. The patient had had the pulp of the tooth extracted, and had not returned for further treatment until some time had elapsed. Dr. Doyle then found the tooth in a bad condition, with the periosteum inflamed and pus exuding from the cavity. He would like to hear what treatment other members would have pursued in this case.

Various members participated in a humorous discussion, still feeling, perhaps, the refreshing influence of a morning clinic. When members were brought down to the consideration of the case presented by Dr. Doyle, the discussion took a wide range, embracing the consideration of dental abscess, the extraction of tooth pulp or nerve, the use of tin foil for filling, and the use of artificial dentine and various materials.

The president called the attention of the members to the question, when, after some discussion of the original question, Prof. Taft was called upon, and responded at some length, showing the difference between the healthy pus thrown off by

a person of good vital powers, and the vitiated secretion, of offensive odor, and acrid, which, can never be absorbed without serious injury.

Dr. Keely introduced the subject of the use of cotton in filling, describing some cases to show the danger of its use. He strongly objected to the use of cotton in any shape for filling.

Dr. Taft had used cotton for filling, and thought it could be used without injury; if properly moistened and packed, it can afford no lodgement for secretion, and will not decompose, moistened with creosote for filling the terminal portion of root canals. Metallic filling is liable to the same objections, if not thoroughly condensed.

The sixth subject, care of children's teeth, was taken up, when Dr. J. F. Johnston, of Indianapolis, read an exhaustive essay on the subject. (This valuable paper was lost by the reporter of one of the Louisville papers.—ED.)

After a brief discussion of this paper the joint session rose.

The Kentucky Association was again called to order, when Drs. Doyle and Wells escorted the president elect, Dr. G. W. Priest, to the place.

The president, Dr. Priest, thanked the members of the Kentucky Association, for the compliment of an election to the position of presiding officer. Nothing could make him take more interest in the welfare of the association, than he had always done, but he would endeavor to be a worthy successor to those who had held the chair.

Dr. Goddard, the retiring president, followed in an able paper; (for which, see JUNE REGISTER.—ED.)

The report of the Board of Censors recommending Dr. J. F. Lambkin for membership was read and approved.

The following gentlemen were elected delegates to the American Dental Association: Drs. L. W. Wells, G. F. Baldwin, W. G. Redman and J. H. Taylor.

After adopting the report of the Finance Committee, the association adjourned.

AFTERNOON SESSION.

The State Dental Association of Kentucky, was called to order at a few minutes after three, by the president, Dr. Priest.

The following resolutions of thanks were offered by Dr. Goddard:

Resolved, That the thanks of the Kentucky State Dental Association, and the Indiana State Dental Association be, and they are hereby, extended to B. F. Camp, Esq., president of the School Board, for his kindness in allowing us the use of the room of the School Board for the purpose of holding our meetings.

Resolved, That the thanks of the Associations are hereby extended to Mr. Newman for his kindness in tendering the use of Association Hall for our meetings ; also, to the representatives of the daily papers for their full and accurate reports.

The amendment to section 1, of article 3, of the constitution, previously offered by Dr. Doyle and laid on the table until the afternoon session, was taken up and adopted unanimously. This amendment was as follows :

Any regular dental practitioner of any State other than the State of Kentucky, may be elected to honorary membership in this association upon the recommendation of the Board of Censors. And such honorary member shall be exempt from all dues and assessments ; and shall have the right to participate in all discussions, except those involving the expenditure of money. But he shall not be entitled to vote upon any question, and shall be entitled to the diploma of this association upon the payment of the usual fees charged active members: namely, \$3 for graduates and \$20 for non-graduates.

The amendment of Dr. Rogers in relation to the place of meeting was discussed, and, on motion, its consideration was laid over until the next annual meeting.

THE JOINT SESSION.

The Kentucky Association adjourned, and the two associations met in joint session.

Dr. Goddard moved that, as the time was short, the associations pass at once to the consideration of the tenth subject, which was stated as follows:

“What are the points necessary to be observed in the construction of Artificial Teeth?”

The first paper offered was by Dr. J. F. Canine, entitled “Mechanical Dentistry” which was full of useful information

to the profession, and an elaborate discussion of the subject in hand. (For which see another page.)

Dr. B. Oscar Doyle was called upon to read a paper upon the "Insertion of Artificial Crowns upon the Natural Root." This paper was illustrated by a specimen of pivot-tooth ready for insertion, which Dr. Doyle handed to the association to be examined. (For which see another page in this No.)

The joint session then rose, and most of the members left to attend a clinic at Dr. Seymour's office.

During the intermission the Kentucky State Dental Association was called to order, and the report of the Board of Censors, recommending that the following named gentlemen be declared honorary members of the association was adopted: Drs. J. W. Baxter, Vevay, Ind.; P. G. C. Hunt, Indianapolis; J. F. Johnston, Indianapolis; George W. Keely, Oxford, Ohio; W. F. Morrell, New Albany, Ind.

On motion of Dr. C. E. Dunn, a committee was appointed to revise the constitution, by-laws and rules, with instructions to put the amendments in their proper order.

The president appointed on this committee Drs. Doyle, Dunn and Goddard, Dr. Peabody refusing to serve on the committee on account of his engagements.

The propriety of placing none but residents of Louisville upon the committee was discussed, the conclusion reached being, that this was the only advisable course.

Dr. Doyle moved that the dentists of Louisville be allowed to change the hours of the semi-monthly meetings to suit themselves. Laid on the table until the following day.

On motion it was resolved, that when the Kentucky State Dental Association adjourn, it would adjourn to meet at the office of Dr. Priest, the next morning at half-past eight o'clock.

It was ordered that ten more diplomas be printed.

The thanks of the joint session were unanimously voted to Dr. J. F. Canine, for the hospitable entertainment which he gave the members of the association at his residence, Wednesday evening.

Dr. Merritt Wells, president of the Indiana State Dental Association, returned the thanks of the association which he represented, to the Kentucky State Dental Association for its

hospitality, and invited the association to visit the Indiana Association at its annual session, on the last Tuesday in June, 1874.

Dr. W. G. Redman was elected a member of the Executive Committee, vice Dr. G. W. Priest, elected president.

With this change, the officers of the association are ;

President—Dr. G. W. Priest.

Vice President—Dr. W. M. Rogers.

Secretary—Dr. B. Oscar Doyle.

Treasurer—Dr. J. F. Canine.

Board of Censors—Drs. C. E. Dunn, F. Peabody. W. H. Goddard.

Executive Committee—Drs. C. E. Dunn, J. F. Canine, W. G. Redman.

After allowing several bills for small amounts, the Kentucky State Dental Association adjourned.

NORTHERN OHIO DENTAL SOCIETY.

PUT-IN BAY ISLAND.

June 10th, 1873. 10 a. m.

Meeting called to order by the President, Dr. Robinson
Minutes of the last meeting read and approved.

Members present, D. R. Jennings, L. Buffett, B. Strickland, B. F. Robinson, W. P. Horton, R. R. Peebles, J. Stephan, Cleveland; F. S. Whitslar, Youngstown; E. J. Waye, H. M. Reid, C. T. Strond, Sandusky; C. B. Knowlton, Oberlin; A. F. Price, Fremont.

Treasurer's report received and referred to Auditing Committee— Dr. Waye was appointed Auditing Committee.

Bill of Corresponding Secretary referred to the Auditing Committee.

Adjourned to 2 p. m.

Report of Auditing Committee received and accepted,

Aug-4

Examining Committee reported and recommended the names of J. E. Phelps, of Chagrin Falls, to become an active member, and H. A. Smith, of Cincinnati, an honorary member of this Association, both of whom were elected. On motion, Dr. E. M. Smith, of Jackson Michigan, and A. B. Robinson, of Butler County, became honorary members of the association.

The first subject for discussion was the relative value of the cheaper materials for filling teeth.

The subject was introduced by an essay by Dr. Waye who spoke of the materials used, classed under the name of cheap materials. Considered tin superior to all others when used with the same amount of skill that gold was; did not consider any of the preparations of amalgam fit material for filling, as he had not found any but what would contract more or less, leaving walls of cavity exposed, thereby destroying all the purposes for which it was used.

Hill's Stopping, the oxy-chloride of zinc, and the various preparations of gutta-percha, are useful in their place; but it must depend upon the judgment of the operator as to where and when they are to be used.

The essay was highly creditable to its author. Motion carried that essay be received.

Dr. Harroun had had a good deal of experience in the use of tin fillings, which he considers next to gold: thought tin required as much skill and time to make a perfect filling as gold: could not recommend amalgam: for temporary fillings would use Hill's Stopping.

Used oxy chloride of zinc in a good many cases as a capping to exposed nerves, first applying a coating of collodion; had been successful in nearly every case in applying the collodion; would use thick applied on a piece of spunk, dried by using a hot air syringe; did not think the collodion would contract when not applied in excessive quantities.

Dr. Strickland preferred a solution of gutta-percha dissolved in chloroform as a capping directly over the nerve, as he had some difficulty with collodion, on account of its contracting.

I think in the use of amalgam, a great deal depends upon the

manner of its preparation; I would use but little mercury, preferred it in some cases to tin; in using amalgam would grind and wash thoroughly, and press out all the mercury that was possible; much better results would be obtained from amalgam if more pains were taken in its manipulation.

Dr. Smith thought it necessary that there should be some material which could be used with less expense than gold, I have not been able as yet to find any material that would compare with gold; did not use amalgam as extensively as formerly.

Dr. L. Buffett thought amalgam was used more or less by nearly all dentists; very few were so situated that all of their patients could pay for gold; regarded tin as the next best filling to gold, and that it could be used in most of cases; next to tin would take Hill's Stopping; had not been successful in the use of oxy-chloride as a capping to nerves.

Dr. J. E. Robinson thought we ought to all consider how we can do the most good in our profession, did not think we ought to entirely discard the use of amalgam; fully agreed with essayist in regard to the use of tin; thinks a great many teeth have been saved by amalgam fillings in the mouths of patients who were not able to pay for gold; would sooner save a tooth as long as possible with amalgam, than extract it and put in a poor substitute.

Dr. Horton thought there was but a small proportion of dentists who could get along without the use of some of the cheaper materials for filling teeth; that the value of amalgam depended largely upon the manner of its preparation and introduction into cavity; had seen amalgam fillings when properly prepared last fifteen to twenty years; there were cases where amalgam was to be preferred to tin; as amalgam fillings were ordinarily put in, four out of five would fail, owing more to the manner of its manipulation than to the material.

In children's teeth often used tin; thought in the six year molar, that the excessive mercury from amalgam fillings would cause destruction of the nerve. There was some good in all of the cheap materials and it must depend upon the good judgment of the dentist when and how they should be used.

Dr. Smith doubted if an amalgam filling would destroy the

pulps sooner certainly than a filling of any other metal.

Dr. Strickland thinks if there was no mercury to evaporate that the fillings would not contract. In putting in amalgam fillings would pack carefully against the walls of the tooth; would take two or three thicknesses of tin foil and burnish against the filling to absorb all the mercury possible; have the patient call in a day or two and have the filling polished so as to get a perfectly smooth surface; had seen such fillings retain their polish and preserve the teeth a great many years; did not want to be understood as claiming that it would always secure the best results; thought we ought to investigate the kind and preparation of material used in the different amalgams.

Dr. Stephan remarked, that the space around large amalgam fillings, was not caused so much by the evaporation of mercury, as by the edges of the amalgam breaking off—it being a very brittle substance.

Dr. Reid used some amalgam in his practice, though not as much as formerly, but used more gold, as he had been able to educate his patients to a higher standard of dentistry. In a well-prepared amalgam filling one-sixth of its weight is mercury—in a large proportion of amalgam fillings one-fifth is mercury.

He related a case where the bicuspid teeth were so badly decayed that there was not sufficient strength to fill with gold; filled roots and crowns with oxy-chloride of zinc; cut away from edge of cavity so that more of it was exposed to surface, then filled with amalgam; as yet had seen no discoloration of the teeth.

Dr. Peebles thinks amalgam fillings are brought largely into discredit from the fact that a great many teeth are filled with amalgam, that are not considered worth filling with any other material.

Dr. E. W. Smith thought that the discolored bone around amalgam fillings was seldom found in a softened condition, but it was harder than the natural condition.

Dr. Knapp believes that if gold had been stuffed in teeth in the same careless manner in which the most of amalgam fillings are, that the failure would be as great as with amalgam.

Dr. Knowlton thought that one of the main difficulties in amalgam fillings is that it was used more in a class of teeth where the pulps were destroyed so that there was less vitality in the tooth, and more liability to break down.

Adjourned to half-past seven.

EVENING SESSION.

Dr. Palmer considered tin foil next to gold; never was an advocate of amalgam; thought amalgams had been much improved in the last few years by using pure material; could use tin foil where amalgam could be used; would use Guilloi's Cement in preference to any other material for a cheap filling. It will become harder than any of the other preparations of oxy-chloride of zinc. As a capping for exposed pulps, it was to be preferred, as it caused less pain than any of the other preparations of zinc; would use carbolic acid before putting in the cement.

Dr. Spelman does not think that the use of any escharotic to an exposed nerve, is a good plan; does not like to use any material that causes pain and irritation to the pulp; in a large majority of cases it will cause destruction of the pulp; the treatment should be by using some material that would be soothing, and not irritating to it; would use a solution of phenol covered with an arnica plaster dried by a hot air syringe, and then use the oxy-chloride of zinc; believes that chloride of zinc destroys the carbolate of albumen which is formed by the application of carbolic acid.

Dr. Palmer in filling with tin does not use the mallet; thought it did not require the same amount of pressure that gold does.

THE SECOND SUBJECT for discussion was then taken up: "Neuralgia and Pain of the Dental Tissue and Treatment."

Dr. Whitslar: We are often at a loss to give the proper cause of neuralgia, and no one ought to be better able to do so than the Dentist, though a large share of the people, will first call upon their physician for treatment. It is necessary for the dentist to have a thorough knowledge of anatomy and physiology, in order to have a proper understanding of the treatment. Related a case facial neuralgia cured by using hypodermic injection of morphine; urged upon the profession,

the necessity of being thoroughly posted so as to have an intelligent understanding of the different parts of the human system.

Dr. Strickland would inquire what is neuralgia. His understanding of neuralgia was that it is a disease of the only portion of the system which gave pain, which was the nerves. Anything which irritated the nerves, would cause pain in some part of the body. Whenever any of the nerves of head or face are irritated and cause pain, we generally think that the cause was in the teeth, when perhaps the true cause was very remote from them, so that it was not always safe to trust to where the patient located the pain. Often local application will give temporary relief, but a permanent cure generally depends upon constitutional treatment, and the assistance of nature.

Dr. Horton considered neuralgia a disease which required more study than a large class of dentists were disposed to give it—one which required a great deal of thought. The most eminent physicians and skillful surgeons are often at a loss to give the cause and treatment of facial neuralgia; had made local application of morphine in some cases, which gave relief; apprehended that the same was generally owing to a weakened condition of the patient, who would require constitutional treatment and a building up of the system generally, before any permanent cure could be effected.

Dr. Spelman wished to give his theory why the dentine of a tooth was less sensitive after the rubber dam was applied than before. First, he thought that the pressure of the dam upon the tooth tended to raise it in its socket, partially paralyzing the nerve at the end of root. Second, when the cavity is moist there is a current of electricity from the body of the operator to the tooth; but if the tooth is kept perfectly dry it becomes as much a non-conductor as so much ivory.

Dr. Buffett thinks a tooth cannot be so perfectly isolated as to become as much a non-conductor as a piece of ivory.

Dr. Hildreth does not think that the passage of electricity was painful to the patient.

Adjourned to 9 A. M. to-morrow.

The subject of the evening's discussion was then resumed.

Dr. Harroun—The principal part of neuralgic pains comes from a diseased condition of the teeth, either a diseased pulp, periosteal inflammation, crowded condition of the teeth, and other causes. When the patient was inclined to be bilious, he treated by giving cathartics and following with tonics.

Dr. Waye—The principal neuralgia that dentists have to treat is facial neuralgia. Physicians often treat neuralgia of face without examining the teeth, when there are but few cases of facial neuralgia but are influenced by the teeth—the dentist is the proper person to treat such cases.

Dr. Peebles cured a case of neuralgic pains in spine by extracting lower wisdom teeth and prescribing tonics.

Dr. Hildreth thought neuralgia was but little understood by either dentists or physicians. Neuralgia means pain in nerve. To treat neuralgia we should be able to form a correct diagnosis of case. We frequently have neuralgia caused by malaria. In bilious persons would prescribe cathartics in some cases of periodical neuralgia; had prescribed tonics with very happy effect. The supra orbital branch of the fifth pair of nerves is frequently the seat of neuralgic pains, and has to be treated upon general principles, and sometimes requires the most heroic treatment; had sometimes prescribed opium in large doses. A large proportion of the causes of facial neuralgia are by the wisdom teeth; the only radical cure in those cases was to remove the tooth. He related a case where a patient had a severe pain in the arm relieved by extracting the root of the tooth affected with exostosis.

Motion made and carried that we proceed to election of officers for ensuing year, which resulted as follows.

President—Dr. S. P. Hildreth; Vice Pres.—D. R. Jennings; Recording Secretary—C. B. Knowlton; Corresponding Secretary—Charles Buffet; Treasurer—J. E. Robinson; all of whom were elected by acclamation.

Dr. Whitslar and Dr. Harroun conducted the newly-elected President to the chair.

Dr. Hildreth thanked the association for the compliment conferred upon him.

On motion, the retiring address of Dr. B. F. Robinson, was listened to with great interest.

On motion, Dr. Palmer had permission to exhibit and explain some very fine instruments.

The following gentlemen were elected delegates to the American Dental Association; E. J. Waye, R. R. Peebles, J. E. Robinson, F. S. Whitslar, L. Buffett, B. Strickland. H. M. Reid.

On motion, the following essayists were appointed for the next annual meeting; Drs. Horton, Waye, Buffett, Harroun, Strickland, Palmer, Whitslar.

On motion, adjourned to 2 p. m.

AFTERNOON SESSION, 2ND DAY, 2 P. M.

Meeting called to order by the president, Dr. Hildreth.

On motion, the Association adjourned to meet at 8 p. m.

EVENING SESSION, 2ND DAY.

Meeting called to order by the president, Dr. Hildreth.

Dr. L. C. Kelsey being recommended for membership in this Association by the board, was duly elected to the same. Discussion being in order the following subject was taken up: "Constitutional Diathesis," and opened by the reading of a paper by Dr. Hawxhurst, treating of sympathy and action of organs and functions as connected with diathesis.

Dr. Taft: All the conditions must be known fully by the man who successfully treats disease, and to this end a knowledge of foundation principles—anatomy, pathology, and physiology, which he elaborated—showing the most intimate dependence of one organ upon another, their sympathetic relations, etc.

Dr. Spelman inquired of Dr. Taft what he understood by the term diathesis? he understanding it to mean a peculiar condition of parental heritage.

Dr Taft understands diathesis to mean a predisposition or a condition tending to diseased action. It may be general or local as applied to a particular organ or function. Predisposition may, and often does extend through successive generations, sometimes missing and then striking in again.

Dr. Hawxhurst: It would be interesting to know the differ-

ence between temperament and diathesis. The Dr. spoke at some length showing that temperament and diathesis are synonymous.

Dr. H. A. Smith and others continued the discussion.

On motion, discussion on topics closed.

On motion, it was resolved that the chair appoint an executive committee, who appointed the following gentlemen; B. Strickland, E. J. Waye, Chas. Buffett.

On motion, the Association adjourned, to meet at Put-in Bay on the second Tuesday of June, 1874.

C. B. KNOWLTON.

Sec'y.

PROCEEDINGS OF THE OREGON STATE DENTAL SOCIETY.

SECOND ANNUAL SESSION.

SALEM, Wednesday, June 25, 1873.

The Oregon State Dental Society met in the City Council Chamber at 10 o'clock, and was called to order by Dr. L. S. Skiff, President.

The session opened with prayer by Dr. Gray, of Albany. The reading of minutes of the last meeting, report of various committees and officers, were deferred until the afternoon session, in order to accommodate certain members to arrive on the incoming trains.

The names of Dr. J. W. Meredith, of Salem, and Dr. G. A. Miller, of Portland, were presented for membership. The gentlemen named were elected.

By request, Dr. Thompson read the constitution.

Dr. Fiske was introduced to the Society, and in accordance with previous invitation, addressed the Society at some length on "The Effect of Disease in the Body upon the Health and Development of the Teeth."

Aug-5

At the conclusion of Dr. Fiske's essay, Dr. Gray, of Albany, presented a paper on "Dental Therapeutics."

It was resolved that the afternoon session be occupied with the reading of papers on the different theses assigned to the members. The Society then adjourned to 2 P. M.

The Society met at 2 P. M. and was called to order by the President, Dr. Hatch.

Reading of Theses being in order, Dr. Cardwell presented a paper on the "Degeneracy of the Teeth."

Dr. Glenn read an essay on "Dental Irregularities and their Correction," and illustrated his subject with the case of a young lady whose teeth he had corrected.

Dr. Thompson presented a thesis on "Dentistry; its History, Present Status, Claims and Relations."

Dr. Welch offered a paper on the "Cause and Treatment of Loose Teeth".

Discussion of Theses being in order, Dr. Glenn asked for information on the treatment of alveolar abscess. He had applied arsenic occasionally to obtund dentine, and had killed teeth. Abscess followed, the teeth turning dark, and would like to know what method of treatment would be most efficacious in such cases.

Dr. Thompson briefly described a method which he had used in many instances, with success. He first made a thorough opening through the alveolar process, applied remedial agents and continued them until successful.

Dr. Miller wanted to know something about bleaching dead teeth.

Dr. Hatch, in answer to the last named gentleman, said that he had used Labarraque's solution and prepared chalk.

In the regular order of discussion, the subject of exposed pulps was presented for debate, and thoroughly discussed by the members present.

Dr. Cardwell had tried the different methods as they came up, and had concluded that no rule could have universal application. Each case must suggest the practice. He had sometimes capped the nerve with a non-conductor, using a covering of os-artificiel, which treatment has frequently suc-

ceeded. He thought it best, when possible, to save the nerve. In his practice he had often found mouths which would not tolerate dead teeth, the decay in such instances producing abscess.

Dr. Fiske spoke briefly of the electro-cautery in obtunding sensibility and removing unhealthy growth.

Dr. Carpenter, in behalf of the Medical Department of Willamette University, offered the Society either one or two chairs in that Department.

On motion, the Society adjourned to meet at 10 o'clock, A.M.

SECOND DAY, MORNING SESSION.

The Society met at 10 A. M., the President, Dr. Hatch, in the chair.

The roll was called, when the following members responded: Drs. W. F. Thompson, J. R. Cardwell, J. H. Hatch, J. G. Glenn, Jno. Welch, and G. A. Miller, of Portland; L. S. Skiff, J. W. Meredith, and T. Nicklin, of Salem; G. W. Gray, of Albany; and E. W. Biddle of Corvallis.

The minutes of the previous meeting were read and approved.

Dr. Cardwell then proposed Dr. H. Smith for membership. On motion the ballot was had, and he was duly elected.

Drs. Thompson and Gray were appointed a committee to wait on Dr. Smith and notify him of his election.

A communication was read from Dr. S. H. Roberts, of San Francisco, requesting to be made an honorary member. The ballot was had and he was duly elected.

Dr. E. R. Fiske was elected an honorary member by acclamation.

Dr. Gray moved to consider the proposition of H. Carpenter, M. D., Dean of the Department of Medicine of Willamette University, to create two chairs in Dentistry in connection with their faculty.

Dr. Hatch presented the following:

Resolved, That the Oregon State Dental Society offer their hearty co-operation in the matter of establishing a Dental Department in connection with the Willamette University, and commend to the consideration of the Trustees of said Uni-

versity, the names of Drs. William F. Thompson and George W. Gray as suitable persons to fill those chairs. Carried.

A communication was received from W. H. Watkins, inviting the Society to visit the State Prison in a body. On motion accepted.

On motion,

Resolved, That the thanks of this Society be tendered to the City Council for use of Council Chamber. Carried.

Adjourned to meet at 2 P.M.

AFTERNOON SESSION.

The Society met at 2 o'clock P. M., Dr. Skiff in the chair.

On Motion, Dr. Miller was elected Secretary *pro tem*.

Theses for next meeting were announced, viz:

Improvements in Operative Dentistry; Dr. W. F. Thompson.

Absorption of Alveolar Processes—Cause and Treatment; Dr. J. R. Cardwell.

Relative Value of the Different Materials Used as a Base for Artificial Teeth; Dr. L. S. Skiff.

Neuralgia—Its Cause and Treatment; Dr. T. L. Nicklin.

Alveolar Abscess, and Treatment; Dr. G. A. Miller.

Dental Pathology and Therapeutics; Dr. Geo W. Gray.

Duties of the operator to his patients and himself; Dr. J. G. Glenn.

Professional Ethics; Dr. G. H. Chance.

Mechanical Dentistry; Dr. H. Smith.

Causes of irregularity of the teeth, and best method of correcting the same; Dr. J. Welch.

Deciduous teeth and their treatment; Dr. E. W. Biddle.

Extracting of teeth and treatment; Dr. J. W. Merideth.

Sensitive dentine and treatment; Dr. J. H. Hatch.

After the subject of sensitive dentine had been appointed to Dr. Hatch, Dr. Glenn desired to hear the views of the different members concerning their treatment of the same.

Dr. Smith recommends carbolic acid.

Dr. Welch recommended sharp instruments and a steady hand.

Dr. Miller reported his treatment with carbolic acid and nitrate of silver, had some failures.

Dr. Skiff recommended dietie treatment, by requesting his patients to refrain from the use of acids a few days previous to the operation.

Dr. Biddle filled with os-artificiel or Hill's stopping until sensitiveness subsided, removed and filled with gold.

On motion, the Society adjourned to visit the State Penitentiary, by invitation previously extended. Adjourned to meet at 8 o'clock P. M.

EVENING SESSION.

Meeting called to order, Dr. Skiff in the chair, when the following names were presented, balloted for, and elected members of the Society, viz: Dr. E. O. Smith, of Albany, and Dr. W. Kohler, of Portland.

On motion, a vote of thanks was tendered E. R. Fiske, M. D. for his excellent paper, and a copy requested for publication in the Dental Journals.

After discussing various topics of interest to the profession, the Society adjourned to meet at Portland on the last Wednesday in March, 1874.

J. R. Cardwell,
Recording Secretary.

CINCINNATI DENTAL ASSOCIATION.

Monday Evening, June 9, 1873.

The Cincinnati Dental Association met in the evening, Dr H. R. Smith occupying the chair. The committee appointed to investigate the question of prices, made a provisional report and asked for more time.

A report was called for from the Microscopical Section, as regards work done, and proposed to be done. Here, too, no final report could be given. Dr. Hawxhurst stated that there had been consideration given to the subject, and that, at Dr. Taft's suggestion, he had written down a plan of study, which

in the absence of other important business, he was requested to present.

He said that in working out a course of microscopical study for a body of dental practitioners, it appears to be the better way to choose some restricted line of investigation. To study the whole of animate and inanimate nature, would be too great a task. It is better to leave out of consideration all substances except living tissues, and it would even here be well to restrict ourselves to the study of only some particular tissues, which may be of the greatest interest to the dental practitioner. But here the field is vast, and we may as well begin with some particular tissue. The teeth offer points of much interest and are likely to be especially attractive.

If we begin with dentine, which constitutes the body of the tooth, and carry our investigations onward through the enamel and cementum, and then proceed to the study of the associated parts, we shall have adopted a very good order.

Dentine may be studied as a normal tissue, until all its natural characteristics are made out, and until we understand pretty well what it is when healthy, and naturally constituted. Its anomalies may then be taken up, and all the variations of form which it can undergo without taking on pathological conditions, may be presented. We may then proceed to study all the numerous modifications of this tissue, which are produced by disease.

This same three-fold study may be carried into our investigation of enamel; taking up first its normal varieties, then its anomalous characters, and finally the differences of structure that pathology may introduce into it.

After proceeding to the study of cementum and investigating according to the same plan, we shall be tolerably well acquainted with the microscopical characters of the teeth and may then lay out accurately a further course of study.

There was much discussion upon this report, and upon other questions that were introduced by an essay that was read upon the subject of Lime Salts.

Dr. Hawxhurst tendered his resignation as Secretary of the Association, and Dr. S. E. Goe was elected in his place.

By vote of the Association the initiation fees and dues of Drs. Goe and Hawxhurst were remitted in consideration of their past and prospective services.

The Association adjourned to meet on the 2nd Tuesday of July, at the office of Dr. A. Berry.

D. C. HAWXHURST. Sec'y

Editorial.

A SHANGHAI DENTIST.

Dr. William C. Eastlack, a practicing dentist of Shanghai, China, made a professional visit with the Doctors Taft, of this city, yesterday, on his way from the "Land of Flowers" to the East and England. Dr. Eastlack has been practicing dentistry for the last fifteen years in China. He says that, with the exception of a few persons of rank and distinction who sought his services, the "Celestials" have no understanding of, nor appreciation for, dentistry.

The native dentists are the merest charlatans, and practice as magicians and cure-alls. They insert artificial teeth, filed out of the teeth of the sea horse, which are kept in place by copper wire wrapping, or by fastening to the adjacent natural teeth, and charge about three cents per tooth for the operation.

Teeth are extracted by a hocus-pocus process which the dental impostor calls "coughing up". The method of extraction is this: the dentist applies to the gums of the troublesome tooth a white powder, represented to be the salt extracted from the sweat of a horse. Dr. Eastlack found this white powder to be nothing more or less than arsenic, which causes the gums to slough, when the tooth is easily removed by the operator's fingers.

But the Chinese method of curing toothache is what puz

zled him most, and longest defied detection. The operations, it should have been stated, are all performed in a temple, or in the space in front, under a large umbrella, the idea being that religious ceremony is in some way connected with them. Toothache is caused by a maggot which gets into the tooth some how or other while the patient is asleep, or while he is laughing immoderately. It must be removed alive, or the patient will go mad. He is, therefore, placed on a seat and his head thrown back. The dentist inserts a long pair of forceps, and after fumbling around a few seconds, produces between his nippers a little wriggling black maggot—the cause of the whole trouble. Dr. Eastlack witnessed the operation repeatedly, but it was only after obtaining surreptitious possession of the forceps, that he discovered the trick. He found that only one arm of the forceps was of iron; the other was of bamboo painted to resemble the other. In the hollow of the bamboo were found a number of little black maggots, probably obtained from decayed vegetables or other decomposing matter. When necessary to do service the operator simply squeezed the bamboo above, and a maggot was ejected from the small end of the instrument into the mouth, and then adroitly taken between the nippers and held up triumphantly before the gaze of the astonished and grateful patient. Dr. Eastlack never could satisfy himself on the point of the patient's relief. The operations he witnessed were dispatched with astonishing rapidity, and the patient hurried away as if that part of the performance was essential to the success of the operation.—*Cin. Com.*

ROSE PEARL.

We have recently had some dentures mounted on Rose Pearl as a base-plate, and must say that the method of manipulation now employed, is far more simple, rapid and effective, than any used heretofore. A set of teeth may be constructed by this process in less time than by any other with which we are acquainted. There are other points of excel-

lence about this process. There is no change by springing or contraction of the material; its adaptation to and about the teeth remains perfect. There is no change of the teeth, after they have been adjusted, possible in the manipulation; so that the articulation, after the work is finished, will be as perfect as it is made when adjusted upon the trial plate in the mouth, or upon the articulating model. If there are any defects in a plate when coming from a flask, it may be repressed, to correct imperfections: this could be done many times, were there occasion for it, without injury to the plate or liability to change the position of the teeth.

The material seems to be much improved over any former specimens we have seen, and it is certainly better than any pyroxyline base that has been offered to the profession hitherto. Its color so well represents the natural gums as to supersede the use of porcelain gum. Thus far it seems to retain its color in the mouth. In regard to strength, it seems equal to any other kind of work.

The apparatus for working it is simple, easily operated, and not expensive; and any dentist of good ordinary manipulative ability will be able to work it from the instructions given by the proprietors, which are very explicit.

There is, moreover, no patent fee, license, or royalty. Now then, rubber to "Davy Jones' locker," and try Rose Pearl as now presented.

MICROSCOPE.

In a letter of recent date, Prof. Hariman of Boston says: "Mr. Tolles has completed a $\frac{1}{75}$ immersion objective for me. It is a very nice one, is perfectly achromatic, and will magnify about four thousand diameters with the A eye piece, and from eleven to twelve thousand with Tolles' solid eye piece. It works through a 400 cover, and I can use it with my large stand with ease; and obtain about six thousand diameters. The light is good. Prof. R. K. Browne regards it a most wonderful achievement for the benefit of science."

Aug-6

This is indeed a step in advance of anything done in this country hitherto, and one for which scientists in this country will congratulate Mr. Tolles; and though he found this a work of great difficulty, we trust he will make at least one more.

After Prof. Harriman shall have more thoroughly tested this glass, we shall be pleased to have further report, especially with respect to definition and penetration.

While great productions of this kind are very important, and the results of immense interest and value, yet another thing is equally, if not more important; and that is the more general use of the microscope as a means of scientific, and professional education. The ready use of the microscope, should be an attainment of every scientific and professional man, and yet how few there are who regard it as much more than a mere toy, or play-thing, with which to spend now and then, a few leisure hours. There are some however who are in dead earnest in this work.

There are several obstacles in the way of the more general use of the microscope; one is ignorance, or want of appreciation of its value, and of what may be accomplished by it as a means of research, development, and progress. In many important departments the microscope has made revelations, that without it would forever have remained hidden and unknown.

Another difficulty, is that efficient work with it, involves great labor, and patient perseverance; which very few in this rushing, utilitarian age will stop to employ. If microscopic observation and work, could be done by steam or electricity, and would be immediately productive of dollars and cents, then thousands would at once enter into it, for one who now thinks of it. The expense attending microscopic pursuits is very considerable, the instruments and accessory apparatus, if of the best quality, are quite expensive.

The skill requisite for a facile use of the instrument and its appliances, is only obtained by persevering industry and experience. Every dentist should have a microscope and be able to use it.

EASTERN OHIO DENTAL ASSOCIATION.

The Fifth Meeting of the Eastern Ohio Dental Association, will be held at Alliance, in Dr. Lyder's office, commencing at 10 o'clock on Tuesday, August 26th, 1873. The Session will continue two days, to which all members of the profession are cordially invited. Interesting clinics will be given by competent operators.

SUBJECTS FOR DISCUSSION.—Operative and Mechanical Dentistry, Pathology, Physiology, and Dental Chemistry.

Arrangements have been made with the Arlington House, to entertain members and visitors, at very reasonable rates during the convention.

A. J. DOUDS, *President*.

J. M. PORTER, *Secretary*.

MEMORIAL RESOLUTIONS.

DEATH OF DR. WESCOTT.

The dentists of Syracuse held a meeting last evening, July 7th, at the office of Dr. Charles Barnes, for the purpose of taking suitable action relative to the loss the dental profession has sustained in the sudden demise of Dr. Amos Wescott. Dr. James Chandler was chosen chairman, and Dr. F. D. Nellis, secretary.

Drs. S. C. Dayan, S. B. Palmer, and Chas. L. Chandler, were appointed a committee on resolutions, who submitted the following, which were unanimously adopted :

WHEREAS, A mysterious Providence has removed from our midst Amos Westcott, M. D., D. D. S., one of the oldest dentists of the city, therefore

Resolved, That in the death of Dr. Westcott the profession of dentistry has lost one of its foremost members ; one who has done as much as any member of the profession for its advancement and growth ; who both as a writer and teacher, instilled into the minds of students the most valuable principles of our practice, the effects of which areas extensive beneficial

as civilization itself, and whose name is honored by dentists throughout the world.

Resolved, That while we testify to the pre-eminence enjoyed by the deceased in the dental profession, we bear witness with equal emphasis to his worth and uprightness as a man. Genial in manner, he always stood ready to assist by his counsel those who were struggling upwards, taking a deep interest in the welfare of his fellowmen, and especially of the city of his adoption.

Resolved, That we deeply sympathize with the afflicted family in their sad bereavement.

Resolved, That as a further mark of respect we, the dentists of Syracuse, attend the funeral of the deceased in a body.

Resolved, That a copy of these resolutions be transmitted to the family of the deceased, and the same be published in the daily papers of the city, and in the leading dental journals of the country.

The next No. of the REGISTER will contain a biographical sketch of Dr. Westcott.—*Ed.*

DIED,

At Lancaster Ohio, on Monday, July 14th, 1873. Mrs. P. A. Scott, wife of Dr. H. Scott, in the 51st year of her age.

The Dr. and his family have in this their great bereavement, the warmest sympathy of friends and acquaintances.

And may he be sustained in this his saddest trial.

ERRATUM.

In the last two lines of the first article in the July number, a very annoying typographical error occurs. The word "attracted" should read "attracts," and the word "conjurers" should read "conquerors."

THE
DENTAL REGISTER.

VOL. XXVII.]

SEPTEMBER, 1873.

[No. 9.]

DENTISTRY, ITS HISTORY, PRESENT STATUS
CLAIMS AND RELATIONS.

*Read before the Oregon State Dental Society, June 25th, 1873.
by Dr. Wm. F. Thompson*

Mr. President and Gentlemen :

The subject of my thesis, is one that involves so much of interest to our profession, that I am at a loss in what shape to present it. The old adage, that "He who once puts hand to the plow should never look back," as a general rule is good, but we must make this the exception, for it is but proper, that we should trace back to its very fountain head, a vocation that is not only our sustenance, but *should be* our *professional pride*. To investigate from whence we sprang, our advancement, present standing, and prospective future, is a duty we owe to ourselves, and those dependent upon us. Ours is a profession that will always honorably represent its practitioners, so long as it is not misrepresented by them, or

debased for purely selfish motives. I cannot but pronounce it one of the lost arts. That it is a newly created thing, to satisfy the demands of newly discovered disorders, is most improbable; for if we may believe facts given in history, so long ago as four hundred years before the Christian era, the art of dentistry appears to have been practiced in Egypt. In the ancient tombs of this people, artificial teeth were found, also the teeth of mummies filled with gold. During the eighteenth century, the attention of medical men in France and England was directed to the subject, and a number of works were published devoted exclusively to the art. The treatise of John Hunter, 1771-8, laid the foundation of the English school of dentistry. The subject, however, was treated philosophically, but not practically, for none of these were practical dentists. Other publications of a later date, served rather to investigate the nature of the diseases to which the teeth are subject, than the best method of treating them.

Medicine and dentistry are so closely allied, that the students of each, have in many cases to study the same books, and draw their information from the same source. Like parallel lines frequently blending, stand the two professions today. In the inter-change of ideas, both are oft-times benefited, and never in any case, by such contact are they injured. The dentist should as thoroughly understand his patients, their habits, etc., as the physician. They each stand in a position to *demand* that *perfect confidence*, which *only* can insure complete success. This accomplished, and one half the desired results have been attained; but with that confidence withheld, no operator knowing it, should bestow his services upon so unworthy and distrustful an object. Dentistry ceases to be mechanical, and becomes thoroughly scientific and professional, when treatment of the teeth demands a comprehension of the relations which the various organs sustain to the general system, and their mutual dependence upon each other. Consequently he who practices the art should pause before operating, to consider conscientiously the proper course to pursue. So closely connected are the nerves of the teeth with all other parts, and so perfect in their adjustment, that like the tele-

graph system so admirably adapted to our wants, the nerves are so many electric wires, distributed throughout the body, and when any part is touched by disease, the whole physical system is made to thrill with pains, to the confusion sometimes of those who are applied to for relief. A knowledge of medicine, and the diseases these organs are most subject to, is positively necessary to the scientific man, and thoroughly practical dentist. His knowledge of anatomy should not be confined to the teeth only, any more than a student in geography should confine his geographical information to one state; for every part is so essentially connected with the whole, that to comprehend and diagnose a local disease, he must thoroughly understand the influences that may be brought to bear from an outside source. Our science involves an acquaintance with the anatomical relations of the organs of the mouth, with all parts of the system; and the position of the nerves which communicate their impressions to the brain; for we must admit that many of the ills which "flesh is heir to," are purely mental. The teeth may be affected by remote causes, the remedy for which is to be applied to other organs. Throughout the whole system, like a net-work, are the nerves entwined, and are affected frequently in the teeth, by the diseases of distant members; and an operator unskilled might diagnose the case entirely wrong, and instead of alleviating, might aggravate, causing his victim of misplaced confidence most exquisite suffering—troubles which are produced by carelessness, or indifference concerning that which is of mutual interest to both. No conscientious dentist will permit those seeking his services, to turn him one hair's breadth from the position he may deem right; for what at the time would seem a pecuniary gain, might prove a lasting curse, extending through his whole practice. To permit his patient to dictate the manner in which the work should be done, and what fee is equitable, must necessarily involve both patient and operator in trouble.

Right here I wish to say something concerning that much written about, and talked of subject: "Fees," and *things pertaining thereto*. Commercially speaking, every marketable

article, in price, is regulated by the unyielding, and generally accepted law of supply and demand. To a certain extent this is true, viewed in a professional light ; what the masses everywhere ask, is "value received," and when they have once learned *when* that *want* can be supplied, they as a rule unquestioningly accept it. That man, who courteous, yet *self-reliant*, and with the *faith big in him*, insists that justice be done, not only his patient, but himself, must and will ultimately reap the reward so justly his due. The question of fees should be a secondary consideration, but alas! how many there are who make it the first. Services rendered should always regulate the fee, and never in any case should an operator give abortive work, because his patient fails to comprehend its worth. Better let that patient pass into other hands, for I speak advisedly when I say that that class is always unremunerative, and what proves more discouraging to an earnest worker is, that they are with hardly an exception, unappreciative people. Desiring to get much for little, they are always expecting to get "beat" and generally are not disappointed; but should they get full value, are surprised and still suspicious, because as a rule they are victims to their own greed, and fall into the hands of unprincipled operators, who use them for a purpose. Consequently that both parties get value received, a fair equivalent should be demanded; and when the dentist has put forth his best efforts to produce the desired results, let him not disgrace his profession, or forego his just rights by accepting a laborer's wages. As I have said, competition should not be in price, but in work ; this is honorable, and will always bring satisfactory results to those practicing it ; an appreciative public will generally remunerate where there is true merit, and severely criticise where there is not. It is essential above all things that an operator be courteous and gentlemanly ; for so close is the relationship between those he serves and himself, that any little discrepancy of character, would be noticed and commented upon to his disadvantage. He may advertise, but his advertising should be done in the mouth ; here only will it permanently recommend him to favor.

As I close this paper, permit me to add one word concern-

ing professional courtesy. Its influence upon the individual practitioner, is to elevate him to a higher sphere of usefulness. It harmonizes all his acts to his own well being ; while it does no injustice to those competing with him. This is as it should be, and will, if each comprehend the other's rights and guard against infringement. Professional jealousies have been too much the stumbling-blocks to our own advancement. Unity of action will always strengthen, while a divided sentiment—whether expressed or not—must necessarily weaken the chances of success in any work engaged. For young practitioners who feel how slow the world is to appreciate, I have the greatest sympathy. The trials connected with my early experiences, are among the most vivid recollections of the past. My first effort was made in Cincinnati, 1860, and for six months my practice did not remunerate me the outlay of office rent. As I was at that time quite young, it might have been attributed to youth ; to some extent this was probably true, but not wholly, for there were radical changes needed, that I did not at that time comprehend. It amused me, while it mortified my youthful vanity exceedingly, to have parties call for the dentist, and when I assured them that I was that individual, have them repeat the question, thinking I did not understand. I estimated my little learning at that time, much higher than I do my present understanding of things. I felt deeply the injustice—as I then thought—an unfeeling public meted out to me ; of course I was in error, and many things that then seemed wrong, experience has taught me were right. This experience comes to all, sooner or later, and although dearly bought, and bitter, frequently proves a great benefit ; for it is here that theory without practice, is shown to be unavailing, and pretension without merit, a flimsy screen that must come down, to the confusion of those assuming it. The longer one practices, the less confident does he become of his superior merit over others, and more doubtful that he is square up to the mark, as he should be. And if he discovers—as he thinks,—some bright idea, he is more apt than otherwise, to find some one has occupied the ground before him. Our vocation being a sedentary one, “blue Mondays” will come occa-

sionally, and at such times, we are apt to think the world is not just what it should be. Whether it is or not, I question; this however must be decided by others. but it is self evident then, that some sovereign cure is needed. It is without doubt the most trying of any of the professions, more soul and body trying, eating out one's very vitals, turning the current of his life-blood backward, making him prematurely old. This is not in the least an overdrawn picture, and with the facts staring us in the face, is it not better to work together in harmony, each extending to the other the helping hand of true sympathy, that results may be attained not only for our own good, but that our profession may continue to advance with the same rapid strides, it has up to the present time?

In educating ourselves to the standard we should occupy we are raised to a pure atmosphere, made more generous, and are less likely to criticise the short-comings of others, because the better able to understand our own defects. In conclusion, let us throw the heart's mantle of charity over the faults of others, that they alike may be charitably disposed towards us.

DENTAL THERAPEUTICS.

*Read before the Oregon State Dental Society, June 25th 1873.
by G. W. Gray, D. D. S.*

Mr. President, Gentlemen and Members of the Oregon State Dental Society:

There are many subjects of interest that might very profitably claim our attention, but none of them more deserving of careful study and earnest investigation, than the one very recently assigned me to write upon. In treating upon this subject, I wish first to refer you back to the time when God created the heavens and the earth, the sea and all things therein in which is the breath of life, "and God said Let the earth bring forth the living creature *after his kind* ;

so God created man in *his own image*, in the image of God created he him ; male and female created he them ; and God said unto them, Be fruitful, and multiply, and replenish the earth." Man being created in the image and likeness of God was undoubtedly a perfect man in all his parts, anatomically and physiologically speaking, and did not spring from the ape, and the ape from the tidal animal, and the tidal animal from some ultimate monad, in whom all vital functions are reduced to the merest rudiments (according to Darwinism). But when Adam and Eve were created and placed in the Garden of Eden, they were created a full-sized man and woman, with beautiful arches of perfectly developed permanent sets of teeth. (They probably being the only persons who ever had the permanent teeth without first having a temporary set.) Those first given them having undoubtedly been intended by their Creator to last them, not only for three score years and ten, but during their natural lives—or for hundreds of years.

Had man continued to comply with the mandates of his divine Creator by bringing forth *after his kind* until this, what would have been the result ? Alas ! gentlemen, where would have been your calling and mine ? I fear we would have been compelled to seek other fields of usefulness, in which to cultivate and employ our talents. But the teeth of the present generation of mankind are not so perfect ; and do not appear " like a flock of sheep that are evenly shorn which came up from the washing," and the mouths most sweet and altogether lovely ; but disease and death are abroad in the land, making serious inroads among us and cutting off not only its hundreds and thousands, but millions of teeth annually. You may notice the infant of tender years suffering untold miseries by decayed and aching teeth, and in many cases called to an early and premature grave. But should its power of endurance prove sufficient, and were it to succeed in enduring all the pain occurring during the various stages of cutting and shedding the deciduous set, the permanent teeth taking their place one by one, its troubles are but begun ; for disease continues its destructive effects upon the permanent, as well as the temporary set, and to preserve them requires the most

skillful operations, that can be preformed by the scientific dentist ; and even then they frequently decay away, are finally removed and replaced by artificial teeth—often at a very early period in life—or, as is sometimes the case, the permanent teeth never make their appearance in the jaw. I read of a case recently, where a dentist made a set of artificial teeth for a lady who never had any natural teeth ; and I have a case in my own practice, of a gentleman for whom, some years since, I inserted a partial set of artificial teeth, the natural ones never having made their appearance.

In reflecting upon the teeth and their associate parts, in their present state of retrogradation, it certainly becomes us to study diligently those agencies, or that branch of medicine which relates to the treatment of their disease—that is, dental therapeutics—and our first inquiry is, what is dental therapeutics? “Dental,” pertaining to the teeth ; “therapeutics” is curative ; that pertains to the healing art ; that is concerned in discovering and applying remedies for disease ; or that part of medicine which respects the discovery and application of remedies for disease, or teaches the use of diet and of medicines. As to how substances not used for food were first discovered and began to be employed as medicines, is very uncertain—whether man himself instinctively resorted to them, or only in imitation of the lower animals, ate certain plants when suffering pain from various sources. The art of using them is usually thought to be a divine gift to man. Undoubtedly, the instinctive cravings which often manifest themselves in desire, must have led the way to an experimental use of many substances resembling, in their physical qualities, those things which were the objects of desire ; and thus, man was led by his rational faculties to make experiments, compare and analyze the results of his observations—experience being really the only true ground upon which curative effects could be expected from medicine. All the positive knowledge we now possess concerning medicine, is the result of accumulated observations of their effects, in many cases, during hundreds, and even thousands of years. Medicine can only be regarded as the handmaid of nature—

the really active and efficient agent in the restoring of health, and can do no more than remove the impediments in nature's path, support her when weak, restrain and guide her when she is inclined to stray. In studying the relation of medicine to the cure of disease, it is necessary to take into consideration two propositions : first, does the medicine really produce a cure ; second, in what manner does it operate. The former of these questions can only be answered by the results of experience—the latter may be solved by an analysis of the same experience, so as to detect the different steps by which the curative result is obtained. The avenues by which medicines are introduced into the system for the cure of disease are, either by external application, injection into the veins, or by introducing them into the stomach ; the latter mode being the best adapted by nature to accomplish the end desired, and in most cases is the one usually employed : but in treating diseases of the dental organs, local applications are perhaps more generally depended upon. There are various influences and deviations present in patients, which must have their due consideration in the application of remedial agents for the cure of disease ; such as race, climate, season, age, sex, habit, idiosyncrasies, mental emotions, etc., etc. ; and to use medicines correctly, an accurate knowledge should be possessed concerning the diseases they are employed to cure.

But it is not the design of this paper to enter into a lengthy discussion or description of the various diseases of the dental organs, and the strong sympathy existing between those organs and other parts of the system, and how to treat them in all their varied and complicated forms ; but simply hint at what might be done towards preventing those diseases from occurring. The old adage says, "an ounce of prevention is better than a pound of cure;" and it is a generally acknowledged fact, that the teeth, like other parts of the body, usually resemble those of the parents ; and if those of the father or mother are defective or irregular, a similar imperfection can usually be found in those of the offspring. "Like begets like," and "as the twig is bent the tree is inclined." So if an

improvement is made in the teeth of coming generations, it must be accomplished through the offspring, by commencing with the early growth of tooth life, and adopting a properly-chosen and well-directed course of dietetics, supplying those necessary bone-making materials through the medium of the circulation; first to the mother, during utero-gestation, and the nursing period of child life, then to the child, during all the formative stages of tooth substance. The engineer cannot get up power to propel his machinery without a continuous supply of wood, water and fire, the necessary elements to be used in generating steam (the propelling power). Neither can the teeth be made good or kept in a perfect state of preservation, unless they are constantly supplied with those bony ingredients that enter so largely into their composition. It is truly gratifying to know that the profession are waking up to the importance of this subject, and are making an effort towards reformation; and I hope instead of the dental practitioner devoting all his leisure moments to the invention or construction of improved dental instruments, burring engines, patent plates, teeth, etc., etc., for making artificial dentures, at least a portion of that time may be set aside and devoted to the studying out and discovering of some means by which nature may be enabled to work out her own reform, and eventually get back to her primitive state of perfection and beauty.

DENTAL LITERATURE OF THE DAY.

BY W. H. JACKSON, ANN ARBOR, MICH.

In looking over the different Dental Journals which come to my hands, there seems to be a general want of precise conclusion, practical results and evidence of accurate observations; in too many of the articles, whether contributions or editorials,

there is a lack of arriving at something excellent that the reader can appropriate for future use.

There is also a tendency to brag about the rapid strides the dental profession is making. Of what benefit is it to this or that one to read several pages in nearly every journal on the great advance of the dentistry of to-day, over that of a few years since. I will admit that an occasional article of this kind is a good stimulant to arouse readers to do their share in the great work of investigation; but in excess, it acts like that other stimulant, alcohol, which first exhilarates, then sickens, and is followed by a sedative effect, and all who drink at its fountain think that they know all, and there is no use of going any farther. The next month they get another draught of the same elixir, and so on the year round; so that from nearly every one's mouth, comes forth those ominous words *our glorious profession*.

This continual singing of the near approach toward perfection, will soon leave us in the same dilemma as the cricket in the old story. After singing away all of the summer, the chilling winds of autumn came, and found him without the winter's store laid by. He called upon the neighboring ants for relief, but received in reply; "We ants never borrow, and we ants never lend."

The profession will be unworthy its name, unless there is a little more earnest work and investigation.

There is a habit among writers of spreading over three or four pages of the journal, that which ought to have been contained on the half page; there is too much subject, and too little object; or in other words, too much baseless theory, and too little practice and practical investigation. I have read to-day an article on a subject, which has puzzled me very much—one which I have sought in vain to understand. The writer covers three or four pages with the *subjective*, but when it comes to the *objective*, he sums it up after this manner: "Harris says, 'But we know of no treatment that will control or arrest this singular disease etc.,' but with our present knowledge of the disease, we can usually at least arrest its progress." Now this writer knows how to arrest (at least he so claims,) that which

it is my greatest desire to learn to do, yet he does not make me any the wiser, as he gives no treatment or remedy to remove the disease.

The object of dental literature should be to teach those who study it, thereby elevating the profession generally. Those who profess to be teachers of a science, should treat the subject with which they are dealing in a scientific manner, and not write for the sake of writing or filling so much space in a journal with nicely worded language, containing nothing to feed the mind or benefit the body of the reader or patient. What do I learn from an article on alveolar abscess, if the writer neglects to give his mode of treatment. What would you learn were I to tell you it is easy enough to arrest a case of spontaneous abrasion, with the present knowledge we have of the disease, if I do not give the treatment employed? Yet such is the manner in which many of the contributors of our dental journals write. Of course they expect that we will drink it down and say that it is all "O. K." because the learned so and so says so.

The more concise the scientific writer, the greater the value of his papers, for there is less slag and drop in proportion to the pure metal; as some ores are worthless on account of the great amount of impurities which they contain, so some authors are worthless on account of being too voluminous. Those writers who stand highest among scientific men, are those who are most concise and exact, for the scientist has to deal with facts and laws, and the fewer the words which will express these facts and laws, the greater their value; for if one instrument will perform the work of a dozen, any one would be foolish if he did not pass by the dozen and take up the one.

It should be our great aim to make our dental journals overflowing fountains of the latest professional information, to which all of us lesser lights may come for instruction and stimulation.

THE AMERICAN DENTAL ASSOCIATION.

BY D. C. HAWXHURST.

The American Dental Association has recently concluded its sessions, and its action may be held to be a fair subject for public criticism. Before proceeding to point out its faults or commend its many merits, I may say that I write in some haste, and with no other expectation than that of fairly laying open to discussion a subject that has needed light let in upon it. There are some who would be glad to see this body hold its place as the very first dental organization in the world—first in its contributions to science, first in the thoroughness and excellence of its discussions, first in the lofty professional attainments of its members, and first in the wisdom and discretion of its legislation for local societies. Many of its friends do now consider it to be, with all its faults, the “highest existing dental authority on this planet;” from which it must of course follow, that no small honor is conferred upon a practitioner when he is made one of its members.

But, how does it happen that this august body, which is supposed not to have its equal at any point nearer to North America, than Saturn or Jupiter, or, possibly not within the limits of the solar system, how does it happen that it has no qualifications for membership? It certainly seems a little singular that a scientific body that aspires to legislate for the dental profession, should be so careless as regards the qualifications of its legislators. If it be a fact that any body who can present a certificate that he has been elected a delegate by his local society, and who can raise the simple fee of five dollars, may at once, and thus easily, become a member of this association, then how are we to maintain for it any high standard of professional acquirement?

For, do we not well know how these delegates are made? They are not always, as might be supposed, selected because they of all others, are best fitted to represent their respective societies. They are not always chosen because of their generous acquaintance with science, or their shining professional

qualifications. They are in too many instances elected delegates for the simple reason, that they are willing to go. The society has perhaps already elected its three or four able members, who always go, and is entitled to one or two more delegates. Who can it get to fill these vacant places, and secure for it a full representation? Probably some very rusty rubber-plate man, who has been let into the society because the treasury was very much in need of his membership fee, is presented and elected. Perhaps it is some young member, who has been admitted to membership on a promise of "reading up;" or some middle-aged practitioner, old in dentistry and experienced in ignorance, who comes in on the strength of long practice. Or, perhaps this particular local society has no qualifications for admission, but takes in all paying applicants, in which case any of the delegates are liable to be, not only poorly qualified, but not qualified at all. In many cases, all the best members of the local societies, have become permanent members of the National Association, and the whole number of delegates is made up of material not the best—often the poorest.

Indeed, from my observation in local societies, I am quite prepared to maintain that the way into the American Dental Association is a free one, that may be troubled by the illiterate, unscientific, unprofessional, irresponsible quack. If not many men of this lowest grade enter, it is not because of any protecting regulations made by the association, but the rather because of their lack of interest in its labors.

But while the qualifications for admission to this great delegated body stand at zero, some of those societies from which it receives delegates are very rigorous in their examination of candidates for membership. Were they all so, then, indeed, there were no need of this article; the American Dental Association could then trust in a measure to the local societies, to keep up the high character of its membership. But unfortunately the examples of a high qualification for membership among local organizations are exceptional. May not the incompetent practitioner, who is refused by one society, be accepted by another? And may he not become their delegate? If he be ambitious, he is now on the high road to a fulfillment of his dreams. He

will soon be a member of the most formidable and scientific dental organization in the world. What need of any further study now? Standing on the same floor, is he not the equal of Taft, and Palmer, and Watt, and McQuillen and the rest?

It seems to me that this matter needs overhauling. Some moderate qualification for admission to membership would act most favorably, both on the local societies, and on the general association.

1—A careful examination of candidates for admission to the American Dental Association, would purify its membership and elevate its general character and tone.

2—The adoption of such examinations would react favorably upon the members of local societies, by stimulating their members to qualify themselves for delegates.

Reserving several other suggestions for future writing, I dismiss this topic with a single remark. It is that I know of no important scientific body in the world, that has long held the respect and confidence of cultivated circles, that did not exercise a wise discretion in the selection of its members.

If this and other important matters shall not receive the attention of those most interested, I greatly fear that those damaging criticisms which have already been made on our National Association, will continue. Already it is to be observed that many of our best members fail to present themselves at its sessions.

DENTAL FEES.

We hear much complaint of the inadequate fees obtained by dentists, and we propose to treat of the subject and to suggest a remedy. It is a noticeable fact that dentists receive the poorest fees of any of the professions. And the question arises, why is it so? One reason is because the profession as a class are not, strictly speaking, educated men. They are in too many instances men who have adopted the profession as

a "dernier resort," and if they make journeymen's wages appear to be satisfied. We often see men who have devoted many years of their life to their profession receiving the pitiful sum of one dollar for filling a cavity which would cost the patient three were he to go to a city (we are speaking more particular of country towns,). And why does he accept this small sum? Simply because some dentist has started in his town and will not come up to the old practitioner's prices. Consequently the old dentist *thinks he* must come down in order to retain his patients. Now here he makes his first mistake. In the first place when a new man starts in a town, the old dentists, instead of calling upon him, and treating him as a brother dentist, consider him an interloper, they shun him, and show no fraternal feeling towards him. He feels hurt and determines he will "cut" prices in order to ruin their business and build up his own; the cutting process goes on all around until none of them are even making a fair living. You will say, "how is this to be overcome?" I will answer you that. When a person comes to your town to open an office, call on him, tell him your charges for operative and mechanical dentistry, and ask him to agree with you to a code of prices. If he has any professional honor he will comply. And when your code is made, *live up to it*. Make no secret contracts with your *patients*, for as soon as you have done that you have broken your word of honor. Your competitor will surely hear of it, and then lose confidence in you, and you certainly can not complain if he cuts you in prices. You had better fill one cavity a day for three dollars, than two cavities at one dollar and a half each, as you have less work for the same pay, besides honoring your professional skill. And the public think higher of a man charging good prices than of one who will do the same work cheaply. Should your competitor decline to make any code of prices with you, do not lower your prices, for then you confess to be no better operator than he. Keep your prices up, and if your patients object to them, you have only to tell them you do not do *cheap* work; they will soon see that you are the better of the two, and your business will increase rather than diminish.

If you charge three dollars for a filling your competitor charges only one dollar for, he has to do three times as much work as you for the same amount of money. It is a mistaken idea to think people will *not* pay good prices, They will do it, and they *do* do it when you tell a person the price will be so much. Keep to it. Do not reduce it. And you will soon find you are doing, if not a large, a remunerative practice. Look around you, and you will see it is not those who are doing the largest business who are making the most money, but those who are getting the best prices for their services. Keep your prices up. Gentlemen, do your work well, and you will soon find you are becoming richer ; you will be honoring your profession, and gaining a reputation. C.

CORRESPONDENCE.

BASEL, SWITZERLAND, FEB. 12th, 1873*

DR. H. A. SMITH:—I received the circular programme of the dear old Mississippi Valley Dental Association to-day, to which your name is attached, and will take the liberty of sending through you, *Greeting!* to the association. You have kindly read for me on other occasions, essays that have been “pitched into” by brother dentists. As time rolls on I see no reason for changing the views expressed in those essays, though at all times open to conviction.

Since the last meeting of our Association, I have changed entirely my field of labor. There is some difference in the class and quality of the teeth here presented, but that difference is not material, and probably in certain sections of America, the same quality presents. As a rule the teeth are softer, and caries (of the light colored and soft variety) predominates. In a majority of children's teeth, the caries attacks the teeth on their approximal surfaces and near the margin of the gum, so that particularly careful examinations are necessary. The majority of our Swiss patients take excellent care of their teeth, and yet salivary calculus of the light brown, the hard and dark and the

"green stain" varieties abound. All along the valley of the Rhine, the teeth are of inferior quality and also subject to calculus.

The better classes do not eat the brown bread so highly recommended by Dr. John Allen, and all classes indulge in the light wines of the neighborhood; most of the wines are of a sharp acid taste to an American. Typhus fever is a prevalent disease here, and if you will allow a side remark, the latest *cure* recommended by our most scientific physicians, is *the bath*, the tepid sponge bath in some cases, and in others, when the fever is high, the cold bath; some physicians recommend the bath every two hours. The treatment is quite popular in Switzerland, France and Germany; neuralgia and rheumatism are also common diseases. These are all of course detrimental to the teeth. I think it is noticeable, that the teeth of the *Swiss* are not, on the whole, as good in form and quality as the teeth of Americans; irregularities of arrangement, and malformed enamel and irregular dentition are more common than in the neighborhood of Cincinnati. Where did the notion arise, that "Europeans have better teeth than Americans?" If *civilization* is to be charged with the destruction of the human teeth, why should not these old civilized countries expose the defects.

I am very much pleased with the practical programme of discussions your executive committee have offered, and I heartily wish some of your members may, with no fear of the meaning shrug of the shoulders of some of the *advanced*, boldly criticise the popular method of *mouth architecture*—I mean the advanced notion of restoring every *PARTICLE* of form of the diseased tooth with gold—and thereby in many cases disfiguring the mouth. I mildly protested against this in an essay, a year or two ago, and was taken in hand by Dr. Driscoll; I did not see or feel the *force* of his arguments and did not reply. I would like to say it again: *I think it is damnable to blast the expression God has given to the human face, because, forsooth, we can train our fingers to apply a rubber dam, and make pellets of gold or mats of gold stick together.* I insist that it requires more skill, and is infinitely less presumptive and in better taste to hide our art, and improve, or restore expression to the face.

An English writer once described America, as the "place where boots are imperfectly polished;" we have got over that, but any foreign or native writer, might to-day with justice describe Americans, as "people who have gold in their front teeth." The people here have better taste, I suppose *Dr. Advance* would say "they are not *educated up* to the *standard* yet. No, and they shall not be by me, for I invariably teach that it is a misfortune to have to exhibit gold in the teeth. In regard to Dr. Arthur's method, I am not bold enough to practice it fully, but am working cautiously in the direction of his advice, and watching results. It is a very plausible theory, and I shall adopt it as soon as I can base it on my own practice.

In mechanical dentistry, *plain teeth* do better here than at home, which also suits my *theory*, and I am glad to know that another member of your society attributes the decline in art in the mechanical department to the introduction and use of gum and block teeth,—and it was a sorry day for the dental profession, when they declined to encourage Dr. McClelland's Rose-Pearl—a sorry day I mean, because Rose-Pearl offered a cheap, beautiful and durable medium, through which the profession might *restore* the lost *art*, and advance it to a place by the side of the painter and sculptor. Dr. Palmer and some others are not willing to give up the artistic capabilities of the mechanical department so called, as his specimens and diagrams exhibited last year proved, but if Rose-Pearl had been adopted, we would have the *great* "continuous gum work," wonderfully assisted by the beautiful handmaid "Rose-Pearl," and the mechanical dentist would no longer be recognized as a member of our profession; in his place would stand the "dental and facial artist"—a gentleman who would be born to fine white linen shirts, and dainty cuff-buttons, and who would not be ashamed to say, "I am a dental artist, madam,"—such language as "*puttin' up a job on rubber*," would then never be heard outside of the village blacksmith shop. Let us pray for a revival, brethren. Let us go ourselves into our laboratories and not apply ourselves, as we have, to disfiguring front teeth with gold, and may be after a while we may have an era of *good taste* among dentists.

With the keenest feelings of sorrow that I can't be with you in the body, I remain very truly yours. C. M. WRIGHT.

Selections.

HORACE WELLS.

The eleventh day of December, 1844, was an era, and a very important one, in the history of surgery. On that day HORACE WELLS, of Hartford, Conn., for the first time made practical demonstration of the application of anæsthetics for the purpose of subduing pain under surgical operations. While under the influence of nitrous oxyd gas, he had a sound tooth extracted. He remained under the influence of the gas some time after, and immediately upon recovering from it threw up his arms and exclaimed, "A new era in tooth-pulling ! It did not hurt me more than the prick of a pin. It is the greatest discovery ever made !" From this time the principle of anæsthesia became an established one in surgery, and by degrees came into general use. WELLS pursued his experiments with nitrous oxyd, ether, and other agents, with an enthusiasm which eventually cost him his life. Finding that others were seeking to rob him of the credit of his great discovery, he became disgusted, disappointed and dispirited. He then went to New York to lay his claims as the discoverer of anæsthesia before the profession of the great metropolis. Soon after his arrival there he manifested symptoms of mental aberration, and on the 24th of January, 1848, in a fit of madness, ended his life with his own hands. He thus left his family unprovided for, and an open field for the unscrupulous to poach upon, to rob him of his well-earned honors. To the discredit of the medical profession, many of them for a time led astray by the specious representations of these parties. But the sober second thought of the profession has become enlisted on behalf of the memory of the unfortunate WELLS, and such men as the late Sir JAMES Y. SIMPSON, STORER, SIMS, DOREMUS, HAMILTON, SQUIBB, and many others of the leading minds of the profession, are using their influence to do justice to the memory of the real discoverer of the application of anæsthesia in surgical operations.

Expressions were given to these sentiments at a large and enthusiastic public meeting in New York on the 21st of May. The meeting was addressed by Drs. MARION SIMS, OGDEN DOREMUS, FRANK H. HAMILTON and others. We welcome any effort to do justice to the memory of one whose discovery, on the 11th of December, 1844, soon deprived surgical operations of their terror, and proved such a boon to suffering humanity, and such an invaluable aid to the surgeon in the use of surgical instruments. We feel proud of the fact that for twenty-five years the MEDICAL AND SURGICAL REPORTER has constantly and earnestly advocated and defended the claims of WELLS. May they yet receive that full and free recognition at the hands of the public and the general government, which they undoubtedly deserve.

In a communication from Dr. HENRY J. BIGELOW, of Boston, published in a New York paper, that gentleman, although his object is to support the claim of Morton, is compelled to admit the priority of WELLS' practical application of anæsthesia for surgical purposes, though he endeavors to belittle his achievements, and claims that WELLS abandoned the use of anæsthetics.

In reply to this Dr. G. Q. Colton very emphatically upsets the theory of the Wells abandonment. "We have," he says, "the sworn testimony of about forty of the most respectable citizens of Hartford, that during the years 1845 and 1846 Wells extracted teeth for them without pain, using the gas as the anæsthetic. He was in constant use of the gas for about eighteen months, when his health gave way, and he went to Europe. Even in Europe he did not abandon his discovery, for he presented his claims to the Academy of Sciences in Paris, and that institution, in recognition of the services, conferred on him the title of M. D.

"As soon as Wells returned to this country he resumed the use of the gas, and continued it until his death, which occurred on the 24th of January, 1848."

"But he met the most determined and bitter opposition from all quarters. It was at that time too much to believe that the inhalation of so little gas or vapor, would destroy the pain of

a surgical operation ! Dr. Wells did all that a man could do, while he lived, to prove to the world the value of his discovery. Should he be deprived of the honor of the discovery because the public were incredulous and repudiated his claims ?

“Wells died before the merits of the gas were generally recognized. After his death Dr. Morton set up the claim that nitrous oxyd was not an anæsthetic, and therefore that Wells had discovered nothing ! No one had used the gas to produce anæsthesia save Wells, and Morton was enabled to gain a general assent to the position he took, namely, that nitrous oxyd not being an anæsthetic, therefore he, Morton, was the discoverer of anæsthesia ! If at that time and during the lifetime of Mr. Wells the gas had proved to be what it really is, and what I have demonstrated it to be, the best and safest anæsthetic known, we never should have heard of Morton as the discoverer of anæsthesia.

“When I revived the use of the gas in 1863, I had this general incredulity respecting its powers to contend with. I was met on all sides by the assertion that Wells had tried the gas and it had proved a failure. I expended eight thousand dollars the first year in advertising, advocating and defending it ; and in all this time did not realize a dollar of profit from my business. Is it any wonder that poor Wells, who had no money to spend, should encounter opposition and discouragement in its first introduction ?

“It should be remembered that Wells’ first experiment, for which I gave him the gas, was on the 11th of December, 1844, and that the first experiment by Morton was on the 30th of September, 1846 ; also, that Morton was stimulated to this experiment by information derived from Wells, and newspaper notices of Wells’ operations.

“In view of all these facts,” says Dr. Colton, “how can any one hesitate to award the honor of the discovery of anæsthesia to Dr. Wells ?”—*Med. & Sur. Reporter.*

BRAIN STIMULANTS.

A prominent clergyman in a neighboring city writes us, that for many years he has been in the habit of limiting his use of tea and coffee, and his "occasional cigar," to the latter part of the week, and, as he fancies, with the result of being able to compose with less effort than when he has either abstained entirely from their use, or when, as once or twice, he has indulged in them continuously for a brief period.

Herein is a valuable suggestion to brain workers in any profession the exigencies of which call for occasionally increased and severe efforts. Tea, coffee, tobacco and alcohol, by retarding the changes in the tissues in the body, which is their physiological action, are supposed to allow the energy thus conserved to manifest itself in the higher form of cerebral activity—in simpler language, they are stimulants to the nervous system; and, in the proper dose, there can be no question that they do exalt and stimulate brain action. But there is equally no question that the retarded tissue changes at the expense of vitality generally—the vitality of the body, that is, its health and strength, being ever in relation to the newness of the atoms which compose the body—and these tissue-changes, the work of waste and repair, must be accelerated in some manner, and to a corresponding extent, in order to preserve the balance.

The obvious lesson to be gained from these facts is, that during periods of intense and unusual mental activity—a lawyer in trying an engrossing case, a banker during a financial stress, a company officer at periods of increased responsibility, an editor or political leader carrying through an important measure—that at such times brain-work may be done with more facility and at less expense, by a judicious use of this class of agents. Provided, however—provided that the balance be struck at once when the necessity for them is obviated.

The means of restoring the balance include first, abstinence from the agents themselves; second, comparative rest for the brain; and lastly, and quite as important as the preceding,

those measures which accelerate tissue changes, and of which the essential ones are physical exercise and bathing—notably the Turkish bath—and nutritious, easily assimilated food, by the first of which, the breaking down of the older particles, and the excretion of poisonous waste-matter are facilitated, and so tissue change in the interest of waste is promoted, while the last furnishes material for renewal and growth.

With such a regimen, based on an intelligent application of means to ends, we would have fewer cases of men prematurely breaking down under efforts they might make with ease, did they only know how and when to open the throttle-valve, or to put on the brakes. This view of the subject must not be construed into argument for a mere sensual indulgence. It is intended for men as they are, and with regard to conditions as they exist. These agents are used, and probably always will be. They have their uses ; and knowledge of them will do more to prevent their abuse than the wholesale condemnation which frequently arises from ignorance.—*Hygiene.*

LEGAL INTELLIGENCE.

BEFORE JUDGE JOHNSON, SUPERIOR COURT, MONTREAL.

BOWKER *vs.* BEERS.—The parties are both dentists residing here ; and the Plaintiff brings his action against the Defendant for having, with intent to injure the Plaintiff in his character personally and professionally, written and published in the March number of the *Canada Journal of Dental Science*, certain commentaries on another article that had appeared in the January number of the *Canada Medical Journal*, signed by the Plaintiff. The *Canada Journal of Dental Science* is printed at Hamilton, in Ontario, but the publication by Defendant in Montreal is what is complained of in the present case, and it is proved that the *C. J. of Dental Science* was circulated here, and received by five witnesses, and also that the Defendant is one of the editors and publishers of it. This is all there is as

to the fact of publication here. What is in issue under the 2nd plea, and under the circumstances, I hold it to be enough.

1st. The Defendant, by his plea, admits that he wrote the article complained of, and said that it was partly provoked and called for by the previous production of Dr. Bowker, to which it was an answer. The subject of this controversy was the use of amalgam by dentists for filling cavities in the teeth, and the Plaintiff commenced the discussion in the *Canada Medical Journal*. It cannot be said that it was not a fit subject for discussion in the interest of dentists and of their customers. The only ground of complaint could be that the discussion was not conducted in a fit and proper manner, that the dispute ceased to be scientific and became personal.

The Plaintiff in the article that called forth the one complained of, by his action had a perfect right to condemn the use of amalgam.

He used that right, but unfortunately did not stop there. After exposing its noxious properties and effects, he says : "The question is often and naturally asked why this amalgam is so generally used by a certain class of dentists." The answer can be found in one or all of the following explanations :

1st. The cheapness of the material.

2nd. The ease and facility with which it is used, for it can be put into the most difficult cavities with as much ease as so much putty or wax.

3rd. It makes up for the want of skill and ability to use something better.

4th. From ignorance or the want of honesty.

The defendant replied to this article in the *Canada Journal of Dental Science* in the same temper. Not content with refuting that part about the amalgam in point of fact, he says : "Dr. Bowker, you are an imposter ; you yourself use this very article which you condemn in others." Now this is a libel like the first ; but the first was a libel on the profession, while the second is one on Dr. Bowker. If he had considered himself libelled as a member of the profession, Beers might have sued the author, but he did not do so, but he libels again. It is to be observed that he is charged with a *wanton* and *malicious* li-

bel. Now it cannot be considered such, but was written under provocation, and not wanton or maliciously. This will go in mitigation of damages, which I have placed very low. Judgment for 50 shillings damages and costs of an action of the lowest class in the Superior Court. *A. & W. Robertson* for Plaintiff; *Carter & Keller* for Defendant.—*Montreal Herald*.

THE SPECIAL TREATMENT OF NERVOUS EXHAUSTION.

Dr. Routh, of London, sums up his teachings on this subject, in the London *Medical Press and Circular*, as follows: His recommendations are

1. Complete rest, and especially abstention from all occupation resembling that upon which the mind has been overworked. This is a rock upon which many split. A friend of mine, an obstetrical physician of great eminence and practice, thought to take his holiday in Ireland, but in doing so could not resist the temptation of visiting the Irish hospitals. His two months passed pleasantly enough, but not so the following winter. He came out with an œdematous eruption, and lost his nails, and continued ill till Swiss air and Swiss mountains, during his next holiday, restored him. It is important, however, to give a patient some occupation. To let a man who has been in harness many years degenerate at once into perfect idleness is most unwise. But the work supplied should be altogether different from his former occupation. Where a new fancy has been adopted, and it is not likely to injure the person, it is well to encourage it. It calls forth into action new powers of the brain, while the previously overwrought parts have time to recover. I know a case where the weak man took to writing poetry. It was a perfect phrenzy. Day after day he wrote wondrous effusions, remarkable both for their beauty and pathos. I encouraged him. He completely recovered in the year.

Such a plan of treatment is, after all, carrying out the prin-

ciple so accurately laid down by my friend Dr. Richardson, when he states, that the brain "is an organ that can rest in parts where jaded, and work in parts that are not jaded, at one and the same time."

2. It is essential to insure tranquillity to the senses which especially give incorrect impressions, and only to put those objects before them which will tend to soothe the mind. Before that of sight, green fields are most conducive to rest. There is no color which, like green, is so soothing to the eye. The hearing must, likewise, be soothed ; noisy places avoided. Sea change, so often advantageous by reason of the bromine inspired, is to be avoided if the waves be stormy or otherwise than in a state of calm. Smell and touch, likewise, are to be calmed ; quiet, sweet-scented, zephyr breezes are the best. A host of quieting, mesmeric influences may be produced thereby, just as sleep can be induced by looking fixedly at any object, or hearing a monotonous voice, or feeling a gentle breeze playing upon the face. Taste is gratified in like manner by simple, nutritious diet, but especially fish diet, and that fish diet, for the reasons before stated, of those varieties richest in phosphorus. The best internal medicines are iron, as improving the sanguineous plasma ; but phosphorus, whether as atlotropic phosphorus, or as the solvent phosph. med. m x. to xv. ter die, or as phosphide of zinc, affords the best chance of restoration.

SANITARY VALUE OF LIGHT.

Professor W. A. Hammond, in *The Sanitarian* for May, argues strongly in favor of a freer admission of light to dwellings and school-rooms. After mentioning numerous illustrations of the effect of this agent upon normal and abnormal conditions of the body, he says :

"As has already been intimated, the management of the light in the sick-chamber is rarely the subject of intelligent and sci-

entific action. In anæmia, chlorosis, phthisis, and in general, all diseases characterized by deficiency of vital power, light should not be debarred. In convalescence from almost all diseases it acts, unless too intense or too long continued, as a most healthful stimulant, both to the mental and physical systems. The evil effects of keeping such patients in obscurity are frequently very decidedly shown, and cannot be too carefully guarded against by physicians. The delirium and weakness which are by no means seldom met with in convalescents kept in darkness, disappear like magic when the rays of the sun are allowed to enter the chamber. I think I have noticed that wounds heal with greater rapidity when the solar rays are occasionally allowed to reach them, and when they are as far as possible exposed to diffused day-light, than when they are kept continually covered.

"In this country it is rarely the case that disease or injury is induced by excessive light. Occasionally, however, we meet with eye-affections due to excessive light, either coming directly from the sun, or reflected from water, snow, or sand, or resulting from the intense light of a flash of electricity passing near the individual. Bright artificial light may also cause derangement of the visual organs. A child of my acquaintance was rendered permanently amaurotic by looking intently at a bright object while her photograph was being taken.

"The practical application of these imperfect remarks is this, that care should be taken both in health and disease to insure a sufficient amount of light to the inmates of houses, and that it is impossible to rear well-formed, strong and robust children, unless attention is paid to this requirement. Sun-baths, or apartments in which the solar rays can fall upon the naked body, are doubtless highly advantageous to health, and rooms for this purpose could probably easily be constructed in or on most of our city houses. At present a chief object of city families seems to be to devise means for keeping the sunlight out of their houses. That this is contrary to nature needs no argument. The world is said to be under-fed, it is certainly under-lit as we manage it. Let us, then, to use the dying words of Humboldt, have '*Mehr Licht*'"

BLOOD-LETTING.

The following, from a very recent number of the *British Medical Journal*, has seemed to us to be of sufficient importance to be worthy of a prominent place in our issue :

"We gladly welcome such researches as have been lately published by Bauer in the *Zeitschrift für Biologie*, whose experiments were made for the purpose of discovering what changes occur in the metamorphosis of albumen and fat in the body after venesection. One would expect *a priori* that the withdrawal of a quantity of blood, by merely lessening the amount of albuminous substances in the body, would be followed by a diminution in the daily metamorphosis. So far from this being the case, however, Bauer finds that the quantity of albuminous bodies decomposed daily in the organism is invariably increased by blood-letting, and the excretion of the urea which is formed by their decomposition is consequently augmented. Notwithstanding this, however, much less oxygen is consumed than before, so that the substances into which albumen splits up cannot undergo such perfect combustion as before the venesection. One may readily understand this, for it is the red blood-corpuscles which carry oxygen throughout the body ; and when their number is lessened by blood-letting, combustion in the tissues can hardly go on so rapidly as before. The decomposition of albumen in the body is altogether independent of the oxygen consumed in it. Now, fat is one of the substances furnished by this decomposition ; and, as its formation is increased and its combustion lessened, to say nothing of the fat taken as food, it must accumulate in the body ; and this it actually does, as was well known to the phlebotomists of former days, whose writings contain many a record of cases where patients became enormously fat after copious blood-lettings. The same thing is seen in a milder form almost every day in the case of chlorotic girls, on whose bodies fat becomes deposited, because they have too few red blood-corpuscles to carry it to the oxygen required for its combustion. In many localities, too, cattle-breeders have become acquainted with the fact, and they

increase the quantity of fat formed by their animals either in the shape of butter yielded by their milch-cows, or accumulated on the bodies of the oxen they wish to fatten by bleeding them from time to time.

"In diseases such as pneumonia, blood may be drawn for the purpose of diminishing the temperature or of lessening dyspnœa. It may be supposed that Bauer's experiments support the use of blood-letting for the former purpose ; but this is not the case, for the fall of temperature which blood-letting produces takes place immediately, and is soon over, while combustion does not diminish till some hours have elapsed. The fall of temperature is, therefore, due to another cause,—viz.: the relaxation of the superficial vessels allowing the blood to cool more readily ; but temperature can be reduced much more quickly and effectively by the cold douche or wet sheet : and increased transformation of albumen, with diminished oxydation, is not unlikely to lead to a fatty degeneration of important organs.

"The relief which venesection generally affords in dyspnœa probably depends in part on its effect in cooling the body, for Fick and Goldstein have shown that increased temperature of the blood is sufficient to produce dyspnœa. This is a real benefit ; but it would be attained as well by the use of a wet sheet, and a second cause of a subjective relief after blood-letting is by no means so desirable. The loss of blood, according to Traube, diminishes the irritability of the medulla oblongata, which is the center of innervation for the respiratory muscles, and, by thus producing a sort of narcosis in this part of the nervous system, deprives it of its power to appreciate rightly the respiratory wants of the body. A third way in which it may prove useful in dyspnœa is by lessening the resistance, which hinders the right ventricle from emptying itself completely, and, by thus facilitating the circulation in the lungs, may assist respiration. The author considers that this condition will only last until as much fluid has been absorbed into the vessels from the tissues as will restore the blood to its former volume ; but of this we are not quite sure.

"Lastly, he says it is not to be denied that the danger arising from serous exudations in important organs, as well as

congestion of the brain or lungs, may be temporarily averted by general blood-letting, in consequence of the absorption of fluid into the vessels which it occasions. This observation has been too often made to leave any doubt upon the subject; but as often has it been noticed that the danger of these conditions recurring increased at every venesection. Œdema is to a great extent dependent on weakness of the vaso-motor nerves (see this Journal, June 15, 1872, p. 644); and, this weakness being increased by blood-letting, the œdema is more likely to occur. Bauer, however, gives a case which shows most strikingly the immediate benefit produced by blood-letting in a case of œdema of the lungs; and we are inclined to think that the weakness of the vaso-motor nerves which might lead to a recurrence of the œdema might be successfully combated by a vaso-motor tonic, such as digitalis. While this shows that immense benefit may be derived from its use in proper cases, the effects which it produces on the tissue-change in the organism teach us that it is not a remedy to be thoughtlessly used, but one which must be employed only after due consideration and with watchful care.

BROMIDE OF POTASSIUM AND THE DISEASES OF DENTITION.

BY C. G. POLK, M. D., OF PHILADELPHIA.

As bromide of potassium has been applied to nearly every disease to which flesh is heir, anæmia and gastritis perhaps not excepted, I supposed, until recently, that the value of this agent in the disorders of dentition was well understood, and that it was frequently used. Finding the application of it to that class of disorders quite a novelty to many, I will give my experience, hoping to awaken attention to it from those possessing larger fields of observation, to verify or disprove my conclusions.

I have used bromide of potassium in about one hundred

cases of infantile diseases, embracing those of diarrhœa, pulmonary congestion, and cerebral congestion, arising from dental irritation. I have seen the diarrhœa which defied chalk, acetate of lead, calomel, catechu, opium; the sulphites and pepsin, yield in forty-eight hours to this bromide. I have seen persistent vomiting, which is often, in such cases, nought else but reflex action from the brain, cease after a full dose of this agent. I have seen the hot head, with gritting of the teeth, presagers of convulsions, yield to a few doses. I have seen pulmonary congestion, dependent on the same cause, yield in a few days.

The most marked case I recollect was in a daughter of Mr. Pickett, of Frankford Arsenal. I had diarrhœa and both cerebral and pulmonary congestion to contend with, and at the time I resorted to the bromide of potassium the case seemed hopeless; under its influence she made a rapid recovery.

The dose must be adapted to each case.—*Medical and Surgical Reporter.*

CAUSES OF SPONTANEOUS IGNITION.

In some letters to the *London Times*, Dr. Attfield points out that animal and vegetable oils differ from mineral oils in relation to combustion, by not catching fire at low temperatures, and in not affording vapor that gives, with certain proportions of air, a mixture which explodes on the approach of flame. But they possess one property of danger from which mineral oils are free, namely, that of being liable to spontaneous ignition, when freely exposed to the air on the surface of a quantity of wool, cloth, paper, cotton, jute, sawdust, lamp-black, ivory-black, ground charcoal, or any similar highly porous substance.

The process of drying which these oils undergo, is not similar to the drying of a wet cloth, where the water simply evaporates, nor to the drying of varnish, in which case it is the spirit that gradually passes into vapor. The drying of

oils, on the contrary, is more analogous to the process of combustion, as it is an absorption of oxygen from the atmosphere, the result being the formation of a solid resin. This absorption of oxygen is accompanied with an elevation of temperature, in some cases very considerable. "As a result of direct experiment," Dr. Atfield writes, "I find that paper, cotton, or wool, slightly impregnated with different kinds of oil, and exposed to the air under similar circumstances, rises in temperature from 25 to 200 degrees, according to the variety of oil, the amount of surface in contact with the air, and the duration of exposure." These experiments undoubtedly support the author's conclusion, that in cases where heaps of oiled fabrics are left to oxidize, spontaneous combustion may, and sometimes does, occur.—*Med. and Surg. Reporter.*

CHARACTERISTICS OF ENGLISH MEDICAL DEBATES.

In a letter from London, the writer speaking of the discussions in the Pathological Society, says :—"The whole tendency of our English societies is, however, to discourage orations ; there is always observable a nervous desire to avoid oratory on the part of the speakers, and a great impatience of anything approaching to it among the auditors. Short, dry statements of unadorned facts and arguments are what is expected, and nothing else is tolerated. Hence we have not among us more than two or three orators ; and these are always careful to repress their capabilities in speaking at the medical societies, and only display their powers elsewhere. Sir James Paget is a born orator ; so are Sir Thomas Watson and Sir William Gull and Mr. Savory ; but they are rarely heard at the societies in more than a few sentences, delivered in a studiously subdued monotone and with a deliberately passive manner which excludes all gesture. When occasionally a foreign orator, such as M. Ricord or Demarquay, or M. Labbe' (recently), has addressed English

meetings of medical men, as at the last meeting of the British Medical Association, it has been curious to observe the half-startled, half-amused expression of their listeners, as they poured forth their orations with animated gestures, in high-pitched notes, and with the artifices of interrogation, response, protest, sarcasm and voluble argument which belong to the trained speaker who expects his auditors to follow him by the hour together."

A DENTIST FINED FOR GIVING CHLOROFORM.

(*The Clinic*; from the *France Me'dicale*, April 23, 1873).—M. Debaralle, dentist at Lille, was brought up before the *audience correctionnelle* for having given chloroform without the diploma of doctor in medicine or officer of health, and for having through "*imprudence, negligence, maladresse et inobservation des reglements*" committed an involuntary homicide by chloroform upon the person of a woman named Caron.

The tribune decided that the administration of chloroform without a diploma was an illegal practice of medicine, and that the defendant was guilty of homicide. As he was guilty of two offenses, he was fined 15 francs for the first, and for the second 500 francs, with imprisonment for one month.

WAS IT SPONTANEOUS COMBUSTION?

They report a queer case of spontaneous combustion from New Hampshire. A physician had prescribed linseed oil and camphor for a severe pain in the chest, and the patient complained of the heat soon after its application on cotton batting. In about an hour he protested he could bear it no longer, and before it could be removed, it took fire, actually blazing up and burning the poor fellow's neck severely.—*Med. and Surg. Reporter*.

FALSE TEETH.

The *British Medical Journal* tells the following stories of Cuvier and Lord Brougham :

Cuvier, impatient at the interruptions of that perpetual interrupter, M. Glais-Bizoin, in the National Assembly, rose so impatiently to answer him, that he jerked his teeth out on the floor, and stooping not less precipitately to pick them up, fell head fore-most, and struck his head against the floor so heavily as to give rise to the illness which proved fatal to him. M. Glais-Bizoin, then a very young man, promised himself that he would abstain from his fatal habit of incessantly interrupting ; but he was incorrigible.

Lord Brougham, in the course of the proceedings of a great meeting of the Social Science Association, of which he was president, was stopped in the middle of a speech by his teeth falling out. After groping on the floor, and on presently resuming his speech, he made the best of the incident by observing, "Our teeth are sources of trouble from infancy to old age."

Editorial.

AMERICAN DENTAL ASSOCIATION.

The twelfth annual meeting of the American Dental Association, was held at Put in-Bay, August 5th and 8th, inclusive.

There were about one hundred and twenty-five members and delegates in attendance, and almost the same number of the profession who were merely visitors. Nearly all the officers were present.

The meeting was organized on Tuesday morning at 10 o'clock, Dr. Hunt, President in the chair. The meeting was opened with prayer, by Rev. Mr. Bosley. It might not have been amiss for each day's sessions to have had a similar beginning.

The meeting in many respects was a profitable and interesting one, especially to those who were present, and gave attention to the proceedings. We doubt, however, whether those who went ostensibly to the meeting, but were persistently absent from the sessions, derived any benefit further than that accruing from a reduction of traveling and hotel fares.

How much better it would be, if all who attend these meetings would manifest an interest, and put forth the effort they could for the advancement of the object aimed at. It is certainly a great mistake to hold the meetings of this body, at places of public resort; better by far be at some point with no outside attractions; or devote the time allotted to the meeting wholly to it, and afterwards devote as much time as desirable to pleasure and recreation. We trust that hereafter there will be an improvement in this respect. The papers read were very good and instructive; more care had been given in their preparation than has usually been apparent in the papers presented to this body; in this respect every year shows progress. The discussions upon the various subjects presented, showed investigation and thought. The profession *does* move, progress *is* being made, the tendency is onward and upward. But we are sometimes impatient, that it goes so slowly compared with what it would, if every one whose interest it is, would but take hold and put forth his best efforts, put his shoulder to the wheel and lift, put his hand to the plow and go forward. There are to be found in all departments of human occupation, those who do not build up, who add nothing to the common stock; but rather seem to aim to tear down that which others have built. We do not think however that the dental profession has more than a due proportion of this class of persons, and we sometimes think not so many as some others.

Though the American Dental Association has accomplished a great deal, and very much that was anticipated by its founders has been realized; yet the question occurs, could it not have done more? within the last three or four years at least; and is it now in a position to accomplish the greatest

good for the profession, and to command the respect of the world as the representative body of the Dental Profession? Does it claim that respect and attention from the profession that it should? Are the majority of the best men in the profession devoting their energies for its support and development? Facts forbid an affirmative answer to these queries. If the American Dental Association is degenerating, why is it?

1st. Because its organization is defective, its laws are very imperfect, and its present membership, or that recently assembled at least, refuse to correct any defects or make any changes whatever, except in some unimportant matters. It was not claimed in the formation of this Association, that its rules and regulations were perfect even for that time, and much less would they be for the present. Occasionally a little change has been made, in its organic law, though usually under stress of great opposition, but for the last year or two, there has been determined opposition to any material change.

About five years ago, a committee was appointed to revise the Constitution; they made their report and it was a good one, and in the main it was adopted. There were some points in it, however, that were susceptible of various interpretations or constructions, out of which many difficulties have arisen; and notwithstanding this, there has been an absolute refusal to make the law more explicit, and correct the difficulty, so that the Association is, at present, wholly without a definite policy in some of its most important features, a determination of which will very much modify the Association for good; and a refusal much longer to do so, will result in its entire demoralization. We trust that another year will put it in a better position. The next meeting will be held in Detroit; a much better place for the interests of the Association, than those at which it has been held for three years past.

The officers for the current year are: *Pres.* Prof. T. L. Buckingham, of Philadelphia, Pa; *Vice Pres.* I. Forbes, St. Louis, Mo; *Recording Secretary*, M. S. Dean, Chicago, Ills; *Corresponding Secretary*, J. Taft, Cincinnati, O; *Treasurer*, W. H. Goddard, Louisville, Ky.

The *Executive Committee* consists of: Drs. Geo. H. Cush-

ing, Chicago, R. G. Thomas and Geo L. Field, Detroit, A. B. Robbins, Denver City, Col., S. B. Palmer, Syracuse, N. Y., L. D. Shepard, Boston, Mass., H. A. Smith, Cincinnati, O., S. H. McCall, Binghamton, N. Y., G. B. McDonnald, Conneautville, Pa.

It is very important that any one upon whom special work devolves, for the next meeting, should take time by the forelock, and make thorough preparation; and so may the next meeting of this body be the best ever held.

MICHIGAN STATE DENTAL SOCIETY.

This society holds its annual session, beginning on the second Tuesday of Oct., and will continue two or three days, at Ann Arbor. This society was organized in the beginning of state dental societies, and has gone on with persistantly advancing step from its organization to the present, making some definite progress each year. There is we think, no society in the country that makes more exacting demands of its members, than this one; and certainly none more scrupulous as to the character and standing of those who seek its membership. This is as it should be. There is nothing that will more certainly destroy the character and efficiency of an association, than the admission to its ranks of uneducated, ungrateful, selfish and designing men, men who care for nor seek anything except their own aggrandizement, and personal interests. The prostitution of associative effort to such purposes, will invariably result disastrously. The requirements for membership in the Michigan society, are more stringent than any other with which we are acquainted, and the result is they have a strong body, composed of the best men in the state. They have labored for three or four years for legislation in behalf of the profession, but as yet without securing the desired object; but by persistent effort this will come, and we are confident they will not give up till it is attained.

They have now in hand a very important work, which will

be brought before this meeting, viz: the organization of a dental college in connection with the Michigan University. The plan is to make available, for this enterprise, much of the teaching that already exists in the medical department, having some slight modifications, to more fully meet the demands of the dental department, and then adding two or three chairs on those subjects that particularly pertain to dentistry as a specialty. Such an arrangement if properly inaugurated and carried out, would ultimate in grand results for the profession, not only in Michigan, but throughout the North-West. In order however to be a success, the dental department should not be an appendage to, nor overshadowed by any other interest; but it should be put side by side with the other departments, and especially that of medicine. And in order that this be carried out fully, the dental students should be required to go through the entire medical course, and stand the same examinations as the medical student, and then his special course in addition. Then, and not till then, will there be anything approximating a thorough professional education; and the best results in this direction, will not be attained, till a good literary and scientific education is made a requisite to entering a medical or dental college. If such a requirement should now be made, it would reduce the classes in these institutions at least three-fourths.

We know of no institution in the United States, that is in a more favorable position to make such a requirement, than Michigan University. And we hope that the Michigan Dental Society, will at least suggest the desirableness of such a regulation, so far as dental students are concerned. It is full time that some progress was being made in this direction, and we shall be rejoiced to see Michigan take the initiative.

It is very desirable that the entire force of the profession in the State should be present at that meeting, and thus manifest an interest in an enterprise that would necessarily exert a great and permanent influence for good. Then let every member be on hand, resolved to do what he can for the best interests of his profession.

MEDICATION MADE EASY.

Our attention has recently been directed to a new method of preparing medicines, whereby the administration is greatly simplified. It consists in properly compounding, dividing and preparing medicines in a vehicle, so that a patient can readily take them. The vehicle is mainly gelatine; and all medicines whether solid or fluid, that do not readily volatilize, can be prepared in this manner. But we will give the language of the inventor. He says :

"The divided medicines are prepared with the *most scrupulous accuracy*, according to the rules of *Pharmacy*, in conformity with the latest improvements and discoveries in chemistry, and in such a manner that the several squares must of necessity contain the exact quantity of the medicine in question and NO MORE.

The divided medicines being prepared in a solution, every drop necessarily containing an equal amount of the medicine, it is obvious, that after being infused into mathematically accurate squares, each square in the solidified mass, must contain accurately measured quantities of the medicine. But not only *soluble* but also *insoluble* medicaments, we are able by this process to reduce in most accurate division into the form of *Divided Medicines*.

This method of preparing DIVIDED MEDICINES enables us to produce squares, each containing 1 grain, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{30}$, $\frac{1}{100}$ and even $\frac{1}{1000}$ part of a grain, and, if so ordered, *even less quantities*.

The great advantages which the divided medicines present are :

- 1st, They are pure and reliable in weight.
- 2nd, They are accurately prepared and divided.
- 3rd, They are from 50 to 100 per cent cheaper than medicines compounded by any other process.

These divided medicines secure to the *physician and patient* a most important desideratum, being in such form and bulk that a full supply can be carried in the physician's pocket-book. He has his remedies always at hand, and can administer to his

patients the exact dose required, without waiting to weigh and compound the medicine, or without waiting until a messenger can go to an apothecary for them."

Now it is quite apparent that a system such as this, simplifies the administration of medicines very much indeed. Something of this kind would certainly be of great benefit to the dentist. A very great educational defect in the dental profession, is an absence of knowledge of remedies, their nature and uses.

The time is near at hand when the dentist will give far more attention to general hygiene, and medication than hitherto, and anything that will tend to bring about such a result, should be received, encouraged and properly used.

RUBBER! RUBBER!! RUBBER!!!

About once a day, upon an average, queries upon the rubber subject are presented: about the same routine of questions are asked. "Is there no relief from this rubber monopoly, and the extortion that attaches to it?" YES, don't use it,—or use something better,—or if you must use it, use it and fight; but if your courage has too far oozed out for that, then either quit dentistry or meekly go and submit you neck to the yoke, and pay whatever is demanded, and *shut up*, and keep quiet, or you will have your "title clear" revoked. Many poor souls when they have got a license to vulcanize rubber think it is about as good as a passport to kingdom come, and that Josiah is a precious good fellow that he did not take their shirt and breeches when he took their coat.

Many in the profession do not use rubber for artificial dentures and still find something to do. Very many of the best men in the profession do not use it. The most successful men in the profession do not use rubber; the most scientific men do not use it; the best educated men in the profession do not use it. The men in the profession who best understand the proper treatment of the natural teeth, do not use it, especially when

there are natural teeth in the mouth. But then the *quacks* all use it. The men who have been made dentists in six weeks all use it. The dentists who don't believe in natural teeth, all use it. The dentists who think natural teeth a nuisance, all use it. The dentists who know nothing about preserving the natural teeth, use it.

All the dentists who advertise to do many things that no body *can do*, use it.

The dentists who advertise to make teeth cheaper and better than any body else, use it.

The dentists who advertise to fill teeth for a dollar and *upwards*, all use it.

The dentists who stuff teeth with amalgam, nearly all use it. And there are some others who use it!! Use something better? Yes. Well, what? Well, almost anything, the Japanese use hard wood for dental plates, and they stand for several years. Well, really, he who asks such a question, betrays so much ignorance of the resources of the profession that it is a hopeless task to undertake to inform him, and he ought to be placed back in the alphabet of professional education. But then to the man who will use it, and fight if need be, we say go in, but don't fight till the enemy appears; but when he does, then apply to Dr. S. S. White, who can supply you with one round of ammunition, at least, in the shape of an "*Answer*," which is already prepared, which you should secure and have filed in the court in which prosecution may be commenced. Now this is brief and simple, but it is enough and to the point, and will secure the purpose if followed.

AMERICAN DENTAL CONVENTION.

The American Dental Convention held its annual session on the 12th, 13th and 14th of August, at Saratoga Springs.

The attendance was not large, but the meeting was an interesting and profitable one. Quite a number of papers was read, discussion upon which was interesting and profitable.

The social feature of the occasion appears to have been quite prominent. Benefits thus derivable are by no means of minor importance.

The American Dental Convention was organized about sixteen years ago ; it grew out of the demands of the profession at that time ; the profession advanced, but the Convention did not, in its organic character, at least, sufficiently to answer the requirements of the rapid progress that was being made, and so another body was established. But the Convention did not abandon the field ; indeed it has had a work to do, a mission to fulfill, and it is accomplishing it. We hope it will continue as long as it is a means of good to the profession.

It meets again next year, at the same place. Dr. John Allen, of New York, is President, and Dr. C. S. Hurlbut of Springfield, Massachusetts, Secretary.

ROSE PEARL.

In the August number of the REGISTER, we made some reference to Rose Pearl as a base for artificial dentures ; and we have now only to say that from the additional experience of one month, we have no modification to make of what we then said, except that we will add that far longer time is required to test any such thing, than has yet been given to *Rose Pearl*. We will add, also, that the difficulty attaches to this that does to almost all new things, viz : that of efficient manipulation and use from hastily written and imperfect directions. Not one in twenty in the profession can take up any new process or mode and operate it perfectly, without personal instruction ; and yet almost any one is willing to make trial from printed description of any new thing, and necessarily failure follows, from the fact that minor details will be overlooked in directions, or not carried out in execution, unless seen ; and then comes disgust and abandonment.

MAD RIVER DENTAL SOCIETY.

The semi-annual meeting of the Mad River Dental Society, will be held at the Phillips House, in Dayton, Tuesday, Oct. 7th, 1873, at 10 o'clock A. M.

ORDER OF EXERCISES :

- 1 Prayer ;
- 2 Calling the Roll ;
- 3 Reading minutes of last Meeting ;
- 4 Reports of Standing Committees ;
- 5 Reports of Special " "
- 6 Reports of Officers ;
- 7 Election of New Members ;
- 8 Election of Officers ;
- 9 Reading of Essays and Papers ;

SUBJECTS FOR DISCUSSION.

What obstacles prevent a more rapid development and progress of the dental profession ? And how can they be removed ?

What are the most urgent demands of the dental profession in its present position ?

What means can be employed for the better preservation of the teeth ?

What degree of importance attaches to the teeth, compared to the other organs of the body ?

What assurance is the dentist warranted in giving his patient, as to the preservation of his teeth after they are attacked by decay ?

What are the modifying circumstances that occasion various results from operations upon the teeth ?

How much is the success of filling teeth due to the mere manipulation ?

Papers are expected from :—Dr. J. H. Paine ; Dr. Geo. Watt ; Dr. J. A. Stipp ; Dr. Geo. W. Keely ; Dr. A. Berry.

GEO. KEELY, *Res.*,

J. A. STIPP, *Sec'y.*

THE
DENTAL REGISTER.

VOL. XXVII.]

OCTOBER, 1873.

[No. 10.]

SYNCOPE.

BY E. M. MORRISON, M. D., DES MOINES, IOWA.

Whenever there is a marked disturbance, or depression, of one or more of the great centers of vitality in any dental operation, there is cause for alarm, and most of us who have been in the profession for a long time, have sometimes felt a solicitude for the safety of our patients from causes of this character. To be master of the situation at a critical moment like this, is not always in the power of the dentist, but it is in his power, and, I may say also, clearly in the province of his duty, to be conversant with the phenomena accompanying these disturbances, and the usual means of averting or remedying them.

Syncope, which is most frequently met with by the dentist, is, according to Prof. Wood,* “a diminution or temporary ces-

* Wood's Practice of Medicine.

sation of the action of the heart, with loss of consciousness and a suspension, more or less complete, of respiration." This condition is also indicated by collapsed features, death-like paleness, and the surface of the body being cool. Prof. Taft* gives "lividness of the skin" as one of the external indications of this condition. This is a mistake: it should be pallor. Lividness is found in apnæ and cerebral congestion, but not in syncope. Both of these conditions require treatment quite different from syncope, and what would be essential in one would be detrimental in the others.

The brain, the heart and the lungs have been termed, aptly enough, the "vital tripod." As one or another of these great centers of vitality first succumbs, or gives way, the external phenomena in general are quite different, and those which are similar, have a different order of succession.

In syncope the heart is first to falter and give way, yet the brain is often primarily affected, and the syncope emotional. Papillon says: † "Very violent impressions of the feelings sometimes abruptly check the movements of the heart and produce a mortal swoon." The instances of fatality from this kind of syncope on record are very numerous, but a recital of them is not within the scope of my present purpose. Deficiency, or loss of blood is a frequent cause of this condition, but it also, according to Dr. Wood, "acts more through the brain than directly on the heart." It is further stated by the same author, that "the loss of much less blood is required to produce syncope in the erect posture than in the recumbent." This is a well known fact, yet it is a substantial proof of cerebral interposition.

The influence of anæsthetics in producing syncope is too frequently overlooked. This condition has sometimes occurred under the influence of these agents, as I have seen in my own office, when the result was fairly, as I believe, attributed to the action of nitrous oxide and chloroform.

Dr. Headland,‡ in speaking of the stages of the action of

* Taft's Operative Dentistry.

† Popular Science Monthly, July 1873.

‡ Headland on the Action of Medicine.

chloroform, says: "The inhalation should not be prolonged beyond the third stage. The pulse is still full. There are muscular movements, or even cries. In the next stage there is stertorous breathing: the eyelids no longer contract when touched with the fingers; the pulse is felt to falter. This is dangerous. To this succeed stoppage of the heart and respiration;—death."

Again, on the authority of Dr. Snow, the same author says: "A larger quantity than five per cent of the vapor in the air inspired is apt to prove suddenly fatal by causing cardiac syncope."

Papillon also says: "Anæsthetics too, like chloroform and ether, sometimes produce stronger effects than the surgeons using them desire, and occasion a state of seeming death, instead of temporary insensibility."

It has been ascertained that forty per cent. of all the accidents from anæsthetics are cases of syncope. Then, from the evidences before me, I deem it a well settled fact, that these agents are a frequent cause of syncope.

There is another point to which I wish to call attention, but it is so well expressed by Dr. Headland in the following paragraph that I cannot do better than quote him once more:

"Though chloroform rarely fails to annihilate pain, and thus greatly to diminish the terror of the patient, it will not prevent him sometimes from dying of the shock of a severe operation. An extensive injury to the body will suffice to produce prejudicial effects upon the heart and nervous system, which is independent of the feeling of pain, and may occur without moral suffering."

Then in a severe dental operation with the patient sitting in the chair, as is now the general practice, we have a formidable combination of the causes of syncope. The terror of the operation; the shock to the nervous system; the loss of blood; the erect posture; the depressing effects of the anæsthetic; and often unobserved organic lesions, are the most prominent of these causes, and they are sufficiently alarming to make the stoutest hearted shudder for the safety of his patients, and for his own reputation, if he is not ignorant of the dangers that surround him.

It is strange that more accidents have not occurred, and that the leniency of juries should continue to acquit indiscriminately in all cases. Neither of these results can be attributed to skill ; for there seems to be a total absence of this accomplishment in both instances. Dr. Kidd, of Dublin, in speaking of chloroform deaths, says : "About 90 per cent. of the cases are in trivial, small operations in persons in perfect health, viz : dentists' cases, operations of convenience." At another time the same author said : "I think I now begin to see that in hospitals and by dentists' assistants, chloroform is given too often as a matter of routine."

Syncope is distinguished from apnæ and real death, in most cases without much difficulty, and there are no other conditions very liable to be mistaken for it, or to cause confusion. In apnæ there is the same absence of pulsation, respiration and consciousness, but in syncope the countenance is pallid, and the skin pale, bloodless and cool ; while in apnæ there is lividness of the face and skin, the lips are purple, and the general signs of venous congestion are present.

By drawing the line of demarkation between organic and animal life, as did Bichat, we are enabled more readily to distinguish between apparent and real death. Vegetables have organic life in common with animals, but animals possess both combined, yet quite distinct. Animal life is first to give way, and when it is suspended, as we commonly say, without marked interruption in the organic life, there is apparent death: but even in real death the organic functions slowly subside, and in sudden deaths they give way more slowly than they do in other cases. Under favorable conditions digestion, the growth of the hair and nails, and other phenomena of organic life have been observed several hours after animal life was extinct. These phenomena depend upon the subsidiary powers. Were it not for these partial energies which outlive the principal energies, all manifestations of life would be extinct from the cessation of the heart's action, but these energies feebly support the organic functions for a time.

This tardy withdrawal of the organic forces has been the cause of much trouble and perplexity in diagnosis in the past

and many persons have been buried alive, because their friends and even physicians could not distinguish apparent from real death. In fact, putrefaction was formerly the only test known for real death, but recent observations have thrown much light on the subject.

It has been a general belief, that the organs of the "vital tripod" could be suspended for a time at least, without death being the result, but I do not deem it probable that a full and complete cessation of any of the great centers of vitality can ever be renewed. In syncope, according to Dr. Wood: "We can generally detect the first sound of the heart, but not the second, and when observed it always gives hope of saving life." More recently and with better facilities for observation, Bauchest has proved that "in the gravest cases of fainting, the pulsations of the heart are not absolutely suspended," and that "in all the cases of seeming death, the pulsations of the heart persistently remained." It is now stated by Papillon, that "When the heart has definitely ceased to beat, then restoration is no longer possible." This stoppage of the heart; the resistance to galvanic action; and the corpse-like rigidity which follows, are deemed sufficient to establish the fact of real death, when properly observed, and they form the basis of a correct diagnosis between this and apparent death.

In the absence of any organic disease, the cases of syncope generally recover, most of them speedily, and without much assistance, yet the loss of blood, great debility, severe shocks, the influence of anæsthetics and other causes have produced their fatal cases, when no organic disease could be detected during life, or by a *post mortem*.

The treatment of syncope consists in placing the patient in a horizontal position; administering nervous stimulants; the application of friction and warmth to the body; sprinkling the face with cold water, and other remedies of like import. The lying-down, or horizontal position is the main remedy, the *sine qua non*, without which all else is useless. The brain requires the renewal of the oxygenated blood, which the heart has failed to supply, as was proved by Brown-Sequard, to revivify its functions, and the head placed on a level with the heart,

or below it, affords us the best means now in our hands for the accomplishment of this result. Any dentist neglecting to place his patient in a horizontal position, will fail to acquit himself of blame in case of death from syncope, and his garments will be stained with the blood of the departed. This position should be secured on the first symptoms of fainting, and may often cut short an attack.

Many of our best surgeons will not, under any circumstances, administer an anæsthetic in the erect posture, and in this respect the present practice of dentists is deemed reckless by them, and justly too, for there is no valid excuse for it, as I have before proved.* Nervous stimulants are of use occasionally, but in most cases circumstances render them unavailable. Frictions and warmth to the body are essential, as the capillaries are stimulated in this way, and without artificial warmth the body would, in most cases, speedily cool to a degree beyond restoration. Sprinkling cold water in the face may have a good effect from the shock it produces on the nervous system, and other expedients may be resorted to as the skill of the dentist may suggest, or opportunity offer.

ILLINOIS STATE DENTAL ASSOCIATION, 1873.

BY S. P. CUTLER, M. D., D. D. S., MEMPHIS, TENN.

This very interesting and instructive meeting presented and discussed many subjects of deep interest to the profession.

On page 61 of the proceedings, the writer speaking of the oral secretions and their action on the teeth, says: "The neutrality, or acidity, might be brought about by the carbonic acid which passes off from the system, in large quantities, by each exhalation of air from the lungs. This coming in contact with every portion of the saliva as soon as it is emitted into the mouth, would tend to transform it immediately to an acid fluid."

* *Dental Register*, Sept. 1872.

It is true a certain amount of this acid enters into solution in the oral secretions, mechanically or by a law of gaseous condensation, in water and other liquids. It is this acid that gives to well and spring water that delicious and palatable taste which is wanting in distilled water, or water slightly warmed, as when given for emetic purposes. When taken in large quantities it acts most promptly, more especially if assisted by poking the finger down the throat, when we wish to accomplish this most delectable and desirable end. If we have a snake or any other disgusting thing in our *bread basket*, we have in this a first class emetic, without the aid of the *puke man*, (water, saturated with the acid gas, is not acid water, but neutral,) whether it be our's or that of some one else; unlike our friend on the street car we take no offense at the suggestion of running the finger down the throat for relief; but to return to our subject:

Water absorbs a certain per cent of carbonic acid, and no more, varying at different temperatures, cold water absorbs its own bulk about, the saliva may condense a little more than pure water at the same temperature. Now, this amount of carbonic acid gas condensed and dissolved in the oral secretions, can produce no chemical change, any more than in the case of water. As a little heat rapidly expels the acid gas, even at the temperature of the body, the capacity of water for this gas is almost *nil*, and the same rule ought to hold good in the case of the oral secretions. The gas in a liquid form, when dissolved or diluted in water, can be driven off by heat alone, but must be neutralized by an alkali, or some other base, before removal, or by evaporation of the water; in some instances, as in oxalic acid, and some others, leaving the acid behind, their affinities for water being weak.

Same page, lower down, he says: "The saliva now being chemically changed, the conditions favorable to the solution of the phosphate of lime of course are not present, and this substance is precipitated as an insoluble powder. It now finds its way between the margin of the gums, and necks of the teeth," etc. I am unable to determine, how the presence of carbonic acid in the saliva could render the soluble phosphate

of lime insoluble, as the carbonic acid certainly cannot decompose the phosphate; if so what would be the result of the constant presence in the blood and tissues of carbonic acid in large quantities, coming in contact everywhere with salts of lime, to supply the bones and teeth through the circulation? Certainly disastrous. Admitting, as the author suggests, the possibility of the presence of carbonic acid, producing an insoluble powder of the phosphate, what would be the consequence? We would expect to find calculi deposited throughout the entire organism, wherever a lodgment could take place. This subject needs more extensive investigation, as we are yet in the twilights only, on this subject. This paper was not discussed to the extent it might have been, with additional profit to the profession.

Page 63, the speaker said: "In reference to absorption of the walls of the pulp chamber, that it is owing to inflammation, swelling of the pulp and consequent pressure, but he could not see where any such influences could act on the outer portion of the enamel," (speaking of erosions.)

I was not aware before the above statements, that a pulp chamber ever became enlarged while a live pulp existed therein, neither can I imagine how any one can determine this fact, as there are no chances to make definite comparisons of size, before and after the death of the pulp. Neither can I imagine how the pressure of an inflamed pulp, could produce absorption of pulp chamber. How far can these statements be demonstrated or proven?

On same page, another speaker in referring to *vital action*, carrying away dentine under fillings, exposing pulps, does not award any agency to the action the filling may have on the absorption of dentine, by electric, galvanic, or other influence as physical agencies, solving the lime salts by removing polarity of the inorganic atoms, or in some other manner, not yet fully understood.

On pages 82 to 85, on the subject of utilization of the lime salts of the absorbed fangs of deciduous teeth to the formation the permanent ones, I have not quoted verbatim. The writer seems to be satisfied that he has given us sufficient evidence

by reasoning and quotations from standard authors to establish such facts. I cannot find, by his reasoning and arguments, how he reutilizes these materials, only the broad assertion of the facts. I only inquire, for information, how these changes are brought about, as a matter important to physiological enquiry. We all want to know how these changes take place, and then the proofs, then we are enlightened and edified. Somehow or other, I had got the idea into my head, otherwise. I believe the writer himself has stated that the lime salts do not pass off by the urine ; of course, that must be a surplus, more than was needed in the economy. So far as the argument concerning common salt is concerned, I cannot see the facts in the same light as he does, as salt never, I believe, becomes a component of any solid tissue like teeth and bones, but enters into combinations of a less stable nature, more especially the effect of chemical, rather than acid affinities. And from the evidences adduced, I am unable to see where he has reproduced common salt from the same elements that had been decomposed as common salt. As to muscular and other organic quaternary compounds being again suited to nutrition, we all agree ; more especially, in our beefsteak we take for dinner, and all other dead meats, as we cannot eat live meats. In the first place, our beefsteak has never been decomposed and converted into any other group of organic compounds, and is in a proper condition to become pabulum for nutrition, like all animal and vegetable food, and must undergo a process of digestion or assimilation to a certain extent.

Let me ask if a muscle in our bodies, ever by natural processes becomes broken up in any way, other than by starvation, disease, or exercise in health ? then only by oxydation, and forming again binary compounds, as carbonic acid, water and ammonia, out of the chief organic elements. The same may be asked of all the elements of organic life.

On page 90, speaking of cementum, the speaker says, "There is quite an intimate relationship existing between dentine and true bone. The most striking analogy is shown by the existence of Haversian canals in both, and the matter entering into their composition is quite similar." This is cer-

tainly something new to me: the existence of Haversian canals in true dentine. This is a sight I have never seen under the microscope. This statement may have been an oversight of the speaker, or a misprint.

On page 92, same speaker says, "It is claimed by some that amalgam may be driven with such force into a cavity as to cause the minute globules of mercury to insinuate themselves into the freshly exposed tubuli, thus creating inflammation of the dentine, and ultimately destroy the vitality of the tooth. I am not prepared yet to believe in inflammation of dentine, as there are no true blood-vessels, or red blood in the tubuli of the dentine.

On page 91, same speaker says, "A sandarac plug not only makes a temporarily water-proof filling, but it forms a coating over the walls of the cavity, thereby closing up to some extent the ends of the tubuli, when, at a future time, these tubes are effectually closed by deposits of lime salts."

Now right here, I certainly must take issue with the ideas advanced, as I cannot see how any such closing up of the tubuli can take place by lime salts, after removal of pulp, and the elements of internal tooth formation and change gone, until Gabriel shall blow his last trump, and the dead bones come to life again; and then by old age, wear, decay or other weakening causes, the tubuli may become more or less obliterated, while dentinal fibrils there exist, and finally become obliterated, as the filling up process goes on *pari passu*; and in no other way, so far as we know with all the lights before us.

On page 169, in speaking of American dentists, says, "It is a gratifying fact, that American dentists, as operators, stand in the front rank, yet we are indebted to European observers for *all* our *scientific* facts." This statement, I think, is unfounded, so far as the latter clause is concerned. I think the European dentists are quite as much indebted to us as we are to them for the light and knowledge of every kind pertaining to the profession. We have more standard text-books than all Europe put together, and quite as scientific and more dental literature (aside from the standard books) in our journals. In all other respects I agree heartily with him.

ADVICE TO YOUNG DENTISTS.

BY C. JR.

Where shall I locate? This is the first question most young graduates put to themselves, and, strange as it may appear, most of them decide upon starting away from the location where they have been brought up. This question has been asked the writer frequently, and for the benefit of all concerned, I will place upon paper my views of the subject, and why; and how to succeed after starting an office.

First, young man, open an office where you are somewhat acquainted, but do no work for an advertisement, or gratis; no matter for whom you operate, charge them for your labor, and if for a friend, charge well. Ask no favors and give none in your business, is a very good motto, and should be lived up to. If you do your work well for your acquaintances, and they are really your *friends*, they will not object to paying for it, and the more they pay, the more pleased they will be to show the work, and to say who did it. Here you will have a good influence at work, and it will not be at your expense.

Whereever you start, under all circumstances, act as becomes a gentleman. Do not dissipate; go into good society, but do not carry your business with you into the parlor; do not advertise *yourself*; do not boast of your own operations; let others speak for you; and you will, if you are polite, soon find your society sought, not only in the parlor, but in the office. Never speak of a brother dentist as a quack, even if he be one; for this shows a bit of envy. Therefore, start where you are acquainted, as it will be much easier to follow the above advice.

Now for those who desire to start away from home, for reasons best known to themselves: I say by all means open your office, where you will have lively competition; and that will be in a city. You will ask why? Here it will be more difficult for you to get into society, and you will be compelled to form your acquaintances. If you act the gentleman in your office, your patients (for you will soon have at least one, if only to

have a tooth extracted,) will soon discover that you are polite, obliging and careful, (and do not show your politeness to those only who dress well, as I am sorry to say many dentists do, when they show it at all,) and will not only call again, but will soon herald you, as a gentleman and dentist. And do work for *charity* rather than for a *small* fee. Now you may say, "I will starve before I can build up a practice." I will answer by saying, Nonsense. I have never heard of a single instance of a dentist starving, or of one becoming poorer, who charged good prices for his labor ; but I have heard of many who have given up, because they did not charge enough to make their living ; and in a large city, the demand is greater for good operators, than in the country, and then operations are appreciated better.

The way to succeed after opening your office is very simple. As before said, politeness and gentlemanly conduct are the first requisites, after obtaining your outfit, and after having procured a suitable location for your office. The next thing, when your patient arrives, unless it is a case requiring immediate attention, make an appointment with him for a few days hence, having him to infer that you are doing some business ; a little deception in this way is not improper. After thus far proceeding, when your patient comes to fulfill the engagement, proceed to work, being gentle in handling, but above all else do your work skillfully. If it is a case requiring treatment, and you do not think yourself competent to treat properly, call in some more experienced operator for advice. Do not fear your practice will be taken away from you on that account ; such occurrences rarely occur ; but should such present itself, remember it is better for your reputation, that you lose a patient rather than injure him, and yourself, perhaps, forever. This fact cannot be too strongly impressed upon the minds of young dentists.

Make no flaming display of signs ; don't advertise in the newspapers unless it is simply your card ; and do not be discouraged. Do what you have to do well : charge well for your labor, for remember you can not operate for many years, and while you are able you must make a competency. Treat your brother dentist as a professional equal ; obtain his

good will even if it is worth nothing ; command his respect. Never cease studying ; spend all your spare moments, after taking necessary exercise, in reading dental works ; read all the dental publications, so that you will be up with the times. Observe the work of others at every opportunity ; attend conventions, and society meetings ; and you will soon find that your business is enlarging, your reputation progressing, and your practice increasing.

CHEMICAL AFFINITY.

BY D. VAUGHAN.

Nothing contributes more to the advancement of physical science, than the means occasionally devised for attaining accuracy and precision, in theoretical and experimental research. The establishment of the doctrine of definite proportions, has been of incalculable advantage to the progress of chemistry ; but while in weight and measure, combining elements conform to the strict accuracy of numerical relations, no such conformity has been hitherto traced in the forces which produce such combinations. During the last century, Bergman supposed that the affinity between acids and bases was invariable, that it could be numerically estimated, and that the causes of decomposition could be always traced by very simple laws. But Berthollet pointed out the fallacy of Bergman's doctrine and showed that the course of chemical changes were not immutable, that they could be often reversed, and that they were dependent on certain influences apart from the mutual attraction between the combined bodies.

According to Berthollet, when salts are in solution at common temperature, the occurrence of a decomposition mainly depends on the insolubility of the resulting compounds. Thus, on mixing together in solution nitrate of lime and car-

bonate of potash, there will be formed nitrate of potash and carbonate of lime ; the latter being precipitated in an insoluble form. This insolubility, or the cohesive force on which it was supposed to depend, Berthollet regarded as the controlling cause of the decomposition. In cases where no insoluble compounds are formed, he supposed that the principle of cohesion would lead to the formation of such salts as were least soluble and were first precipitated from the solution. In a dry state and at a high temperature, he supposed that the chemical changes were determined by the volatility of the resulting compound, and in this way he accounted for the fact that in these circumstances the course of decomposition is often found to be diametrically opposite to that observed in solution.

Berthollet was far less reasonable in supposing that an excessive quantity of an acid or a base would compensate for its weakness ; and this idea he carried so far as to ignore entirely the doctrine of definite proportions. The influence which he ascribed to cohesion and volatility, have been received with more favor by chemists ; yet the rules deduced from his principles are not free from exceptions ; and, as he has given no means of estimating the efficiency of the supposed cause, his explanations seem only to place the doctrine of chemical affinity beyond the pale of exact scientific inquiry. Accordingly, it is on practical operations that we are mainly dependent for our knowledge on this important subject ; and the ancient mariners were not more reluctant to venture out of sight of the land, than modern chemists are to trust to conclusions beyond what is confirmed by direct experiment.

There seems, however, some hopes that the difficulties of definitely estimating the intensity of chemical action are likely to be removed by the aid derived from another department of physical science. The doctrine of the "correlation of forces" has already enlisted in its behalf many zealous advocates, who have done much to support it by experiment, and to show a conformity to its principles in the operations of nature. In scientific circles the doctrine seems now to be generally received, so far as it applies to heat, electricity and m

chanical action. Recently much experimental research has been expended, with a view of ascertaining whether the common relations between force extend to chemical affinity, in its varied operations between the different elements and their compounds. To discover some definite measure of the forces concerned in chemical union is the first step to an accurate investigation of the subject. Though the terms "strong and weak" acids and bases have long been in vogue among chemists, there has been hitherto no means by which the chemical energy of each acid and base could be determined with such precision as science requires. From the doctrine of the correlation of forces, it has been concluded that the affinity between the several acids and bases may be accurately measured by the heat evolved during their combination; that in the separation of elements and of binary compounds from one another, there is expended the same amount of heat as is produced by their union; and that the course of chemical action is always in favor of those combinations which develop the greatest amount of calorific energy.

The last inference, when tested by experiment, is found to be generally correct, but not universally so. In most cases in solution, a salt is decomposed by an acid which exceeds the one already in combination in the power of producing heat while combining with the base. But to this general rule there are some exceptions which have served to embarrass the investigation; and Thompson of Copenhagen, though once partial to the calorific theory and long engaged in testing it by experiment, has lately pronounced it inadequate, and he contends that chemical action is controlled by some force independent of heat.

But before embracing the conclusion, it may be advisable to estimate with more precision than has hitherto been aimed at, the effects of certain agencies which are known to influence chemical action. One of these comes into play when the salts arising from decomposition have little or no solubility. When sulphate of soda decomposes acetate of lime in solution, the effect depends, in a great measure, on the precipitation of the sulphate of lime, which is but slightly soluble in water. But

instead of supposing with Berthollet, that the devellent affinities in this case are aided by the force of cohesion between the particles of the precipitated salt, it would be more reasonable to suppose that the aid is derived from the latent heat which bodies require for fluidity, and which they evolve on becoming solid.

There is also another cause to which some importance must be assigned. In an article published 24 years ago, I maintained that solution weakens affinity, that as it is dilute the effect is greater, but that it is not felt by insoluble compounds. To this cause I ascribed the decomposition which certain salts of bismuth, antimony and other metals undergo when diluted with a large quantity of water. On this same principle also, I accounted for the fact, that carbonate of potash will not be decomposed by quicklime, unless it be dissolved in about ten times its weight of water. Somewhat similar views as to the effects of water has been recently advanced by Berthollet, and he has endeavored to test them by measuring the heat produced by the mutual action of acids and bases in solutions of different degrees of strength. In many cases he finds that increased dilution has no material result ; in other cases, it has a very decided influence on the amount of heat produced, and the supposed cause, though not universal in its operation, has its effects inscribed on many of the phenomena connected with chemical action.

[TO BE CONTINUED.]

HEMMORRHAGE ARRESTED.

BY N. D. LEWIS.

Not long since I had a root extracted from the upper jaw, which bled most of the time for two days and nights. I could not stop the bleeding with the usual remedies, I tried kerosene oil by wetting a small plugget of cotton and inserting it in the cavity. The bleeding stopped in a few minutes and healing took place without sloughing, or other bad effects.

Selections.

DEATH FROM INHALATION OF CHLOROFORM.

BY W. H. MUSSEY, M. D., *Professor of Surgery, Miami Medical College.*

Adolph Hummler, cooper, aged 29, German by birth, called on me August 6th, with the terminal phalanx of right thumb hanging by a slight thread of skin on the dorsal aspect, having received an injury that exposed the next phalanx. As there was too much mangling of the detached portion to admit of osteoplasty, I proposed to dissect back the integument, and remove a sufficient portion of the protruding bone to make a good stump.

The patient insisted upon inhaling chloroform, notwithstanding my unwillingness to give it, as the operation was a slight one, and as I had no assistant then in the office ; but I yielded to his entreaties, gave to him two ounces of brandy in water, and commenced the administration of the anæsthetic at about five minutes before noon. The patient took it satisfactorily for two minutes, when my nephew, Dr. R. D. Mussey, came in, and I resigned the further administration into his hands. Soon, the patient stated to his brother, in the German language, that "they were making him drunk," and immediately commenced to struggle and slide down on the couch on which he was lying. The chloroform was removed, and the patient replaced in his former position, at which moment he had a convulsion ; the skin of his chest, neck and face became purple, and the breathing profoundly stertorous. As the clock struck the noon hour, the breathing ceased.

I immediately instituted artificial respiration, by inflating the lungs from my own, and by pressure upon the chest,—every other filling of the lungs being from the air of the room. I placed forceps upon the tongue and drew it out, though

there was no obstruction to the ingress of air, nor was there the dropping back of the tongue. For six or seven minutes I persisted in this method of artificial respiration, when I determined to make use of galvanism, and directed Dr. R. D. Mussey to make ready the constant-current battery, and myself prepared the Faradaic battery. The first-named current was applied to the phrenic nerves, the current being broken every two or three seconds, regularly and irregularly ; then the negative electrode was applied to the phrenic nerves, and the positive to the diaphragm. Then the Faradaic battery was applied to the positions above named, and artificial respiration maintained by strong pressure of the electrode over the region of the heart, and its sudden removal. This was satisfactory, so far as its action was concerned, and was continued five minutes. Not perceiving any beneficial results from this process, inflation of the lungs was repeated, and this form of artificial respiration was tried for a few minutes. All efforts proved unavailing, and, after persisting about twenty minutes in our attempts to resuscitate, we were compelled to admit that the man was dead.

By order of the coroner, at 8½ P. M. an autopsy was made by H. A. Clark, M. D., an entire stranger to me, who politely invited me to be present. N. P. Dandridge, M. D., Pathologist, Cincinnati Hospital, "assisted" in the autopsy, by making the entire dissection with his usual celerity.

After the taking of testimony, August 7th, this record of the autopsy was presented by Dr. Clark.

"Cincinnati, August 7th, 1873.

"In compliance with the request of Dr. P. F. Maley, coroner of this county, I made a post-mortem examination of the body of Adolph B. Hummler, at the corner of Abigail and Main streets, at 8½ o'clock P. M., on the 6th instant. The body presented a healthy appearance ; was well formed, and in good condition. The thumb of the right hand was nearly severed by a lacerated wound just above the last joint, being merely held by a piece of skin. There was a contused wound of the temple, just above the outer corner of the right eye, and involved only the skin. There was the mark of another con-

tused wound on the right side of the head, above the ear. These wounds of the head had produced no obvious effect upon the brain. Upon opening the body, the lungs were found slightly congested, but otherwise healthy. Mucous membrane of windpipe slightly reddened. The heart was found empty ; left ventricle contracted, right ventricle flaccid. All the valves were perfectly normal. The blood was in a fluid condition ; stomach, liver and intestines healthy. The kidneys were uniformly congested, but not to a very marked degree ; other urinary organs healthy. The brain, with its membrane and arteries, presented no abnormal appearance. The quantity of cerebro-spinal fluid was larger than usual.

H. A. CLARK, M. D."

In the testimony before the coroner's jury, the wife says : "We were married eight years. My husband was a temperate man ; drank five or six glasses of beer daily since our marriage." The next witness, Joseph Siefert, testified : "I have known deceased three years ; he drank whisky every morning regularly ; he was a temperate man."

I submit, if the admission of the wife to the daily use of five or six glasses of beer, and, by a boon companion, of a drink of whisky every morning, does not justify the inference that the deceased was a genuine soaker, and used much larger quantities than his wife knew of.

The last-named witness told me, privately, that Hummler fell through a hatchway two or three weeks ago, and struck upon his head, "when he had too much on ;" that he had not been really well since ; and that, in handling some tools, he accidentally struck his face, over the external orbit of left eye. How much injury to the brain these external blows may have caused, is not clear. They may have had important relations with the causes of death.

In the autopsy, there was noticed, on the opening of the dura mater, an unusual quantity of serum—one ounce, I should think ; also, under the arachnoid there was a preternatural quantity, though there was no unusual redness present. The skull was one-third of an inch in thickness, of uniform density, (no diploe,) very much like a syphilitic hypertrophy. There was decided congestion of the kidneys.

The administration of the anæsthetic was by putting a sponge into the mouth of a one-ounce phial, and shaking a dozen drops at a time upon one thickness of a linen handkerchief held loosely over the face; and only one-third of an ounce of chloroform was used.

The chloroform caused the death. The ultimate conditions preparing the patient for the fatal issue are matters of speculation. Without doubt, alcoholism had its part of the responsibility. Natural or acquired idiosyncracies may be supposed. The patient died with *coma*, an unfrequent form of death from anæsthetics; in most cases there being asphyxia or syncope.

I have administered anæsthetics for a period of twenty-eight years, as often as any one in full practice,—with one fatal result. How many have administered opium or its compounds,—veratrum, alcohol and other poisonous drugs,—to the same extent, and have had but ONE death from the article administered?

PHOSPHATIC FOOD IN DEBILITY.

Dr. Routh, of London, gives among others the following instructive cases, in the *Medical Press and Circular*.

July 1. Rev. T. H. F., æt. about 60, has been a clergyman for many years, preaching with notes only, but lately has become confused whilst preaching, forgetting the thread; seems also to have experienced lately want of power to grasp subjects. Recovers himself after a time, but the fear of this makes him very nervous; sleeps fairly, not troubled by dreams; lives in Cheshire, in a damp, cold neighborhood; loss of memory occurs frequently at other times than when preaching; no recollection, especially of names and figures; urine normal, no sediment; total loss of virile power; no backache, but a creeping sensation up from the nape of the neck; no loss of muscular power on either side; eyesight weak; no indigestion; cannot digest lobster; first sound of heart rather pro-

longed, especially at the base ; bowels regular in London, more so than in the country. Ordered Parrish's food, oyster and other shell fish, excepting lobster. As his teeth are bad, use a small digestive sausage machine.

July 31. Greatly better. Had profited greatly from the treatment. The mental faculties much improved. States is not the same man. He was now ordered allotropic phosphorous, g. x. daily, after his dinner. My last account from this gentleman was that he had completely recovered.

Mrs. Y., æt. about 42, consulted me in November last for loss of mental power and strength. The catamenia had stopped twelve months, and she too had a large family, with small means, and was much worried by creditors. Her memory is very defective, indeed, gone ; she can't remember anything, nor when she puts away any article of dress ; When she has a good night she is rather better for a few hours and then the same state recurs. She is always worse if she has had her attention forcibly called to anything ; is very restless at night, her feet being drawn up as if she was going to have a convulsion ; is become shockingly bad-tempered ; will become violent on the slightest contradiction ; feels very anxious and unhappy ; bowels open ; tongue clean ; no leucorrhœa at present, although five months back she used to have them copiously for two or three days, in lieu of the catamenia.

Ordered mustard to nape of neck ; feet in hot water ; half a drachm of bromide of potassium every night in water ; sol. phosph. used m. x. *ter die*. A week after (November 12), was generally better, except that she had one bad day.

On the 19th she was better, but stated that she had taken the bromide very irregularly, finding she could sleep without it, and the head was much less giddy.

This patient I saw for several weeks after. The treatment was interrupted by a bilious attack, which obliged me to suspend the phosphorus ; subsequently it was resumed. She is now greatly better ; feels that the phosphorus acts as a sort of a tonic, or rather, as she expresses it, can't sleep without it. Memory greatly improved ; some days not so good ; but the intervals are longer, and generally her improvement is marked, and she is, in fact, convalescent.

PHOSPHORUS IN NEURALGIA.

In the *Practitioner*, for July, 1873, Dr. J. A. Thompson has an article on phosphorus in neuralgia. He records eighteen cases, and arranges them in three classes: "acute primary attacks, acute recurrent attacks and chronic cases." Six cases occur in each class. In the first class the ages ranged between twenty-five and forty-six; in the second between thirty and sixty; in the third between twenty-four and forty. Some of the patients suffered with trigeminal, some from cervico occipital, some from cervico-brachial neuralgia; and one in the second class from sciatica. All the cases in the first two classes were cured. Of the third class, three were cured (one patient had been afflicted sixteen years without a week's freedom from pain); two (both consumptive) were relieved; and one uncomplicated case, a woman, aged forty, with affection of the fifth nerve, of ten month's duration, was unbenefited, although she was treated for fifteen days. As might be expected, the chronic cases take the longest to cure, but, in all the cases benefited, relief followed the first few doses.

The author employs large doses. He says, "To prescribe less than one-twentieth of a grain in the first place is to render its therapeutic action apparently variable or uncertain." He now invariably gives one-twelfth of a grain every four hours.

He has employed phosphorus in various combinations, dissolved in oil, in ether, in chloroform, in spirit, and prefers a tincture made by dissolving the phosphorus in absolute alcohol with the assistance of heat. He says, "The most convenient proportion for dispensing is, phosphorus one grain; absolute alcohol three drachms. This mixture will, I know, retain its powers for six weeks." The following is the method of employing it: Tincture of phosphorus, three drachms; rectified spirit, two drachms; spirits of peppermint, half a drachm; water to six ounces.

This mixture being unstable, should be compounded every day. The author prefers the above form to capsules or pills.

[Dr. Percy's alkaloidal form of phosphorus, described in

the last volume of the *Transactions American Medical Association*, 1872, would probably answer better.—EDS. REPORT-ER.]

RAISING GIANTS.

King Frederick William, of Prussia, father of Frederick the Great, determined to raise to order soldiers whose stature should meet his views of what grenadiers to serve royalty should be. The army was his hobby, and tall men his special admiration. He had a regiment at Potsdam that was the talk of the world, on account of their heads and shoulders being far above ordinary humanity. There were three battalions of 800 each, 2400 in all, perfect Anaks, the shortest of the men being seven feet, and the tallest nine. Such lofty beings were procured from all countries in Europe, without regard to cost. James Kirkman, an Irish recruit, could not be had until \$6000 were paid. Tall men were decoyed and put into the service at all hazards. Next he compelled them to marry unusually tall women, whether they consented or not. Prussia is rich in very tall subjects, the descendants of those gigantic grenadiers; these are far taller than the full-blooded Kentuckians. In spite of his eccentric majesty's efforts, however, Nature would have her own way, and the children of such parentage were not all tall at maturity. Then again, another law came into operation to thwart the monarch's ambition to develop a race of monster men. Short men very generally prefer tall wives, and tall women, dapper little husbands. Of course there is no very philosophical way of accounting for taste, but such is the fact. There is a growth limitation to plants and animals. On reaching the predestined dimensions, those active artisans that built up the body, as far as the law of limitation requires, cease laboring, and a permanent type of size is thus established. It is impossible to go counter to those laws and raise giants of any kind. A few individuals, transcending their kindred in altitude, are apparently accidental, or, at least, are beyond explanation; but anomalies in that respect, like monstrosities, cannot be perpetuated through generations.—*Med. & Sur. Rep.*

LAST WORDS ABOUT THE EPIZOOTY.

These last words are in the form of horse doctors' bills. We have seen several, but the following from a St. Louis veterinarian is the most striking.—

Sant Lewis Ganewerry the 4d 1873

Mr.———to james HanKox

Vetturerinary physickian and Surgeant	Dr
Too medikle advice twict.....	\$ 3 00
Konsultation over a ded mare sed too hev hed the ippyzout.....	75
Goin to see two sick hosses in the nite (very cold)....	2 00
To treatment of a kream kollered hoss two days with medisuns	4 50
To making an obstetrikul examinashun of a hosses throat	1 50
To settin up all nite in a barn with a sick hoss.....	2 50
To writin a preeskriphshun for botts, & also one for spa- ving	1 00
To holding a postmortim examinashun on a hoss who afterwards recovered.....	1 50
To givin my opinyun one day on the street regardin the kause of the zoot.....	4 00

Totil.....\$20 75

The gentleman who received the above will not contest the same on account of the charges, but will pay it cheerfully as soon as he receives a remittance from his parents.—*Med. & Sur. Reporter.*

DR. CHAS. T. JACKSON,

The eminent chemist of Boston, has been taken to the Insane Asylum at Somerville, Mass. Dr. Jackson was one of the most important experts in the celebrated trial of Professor Webster for killing Dr. Parkman. It was he who suggested to Morton the use of sulphuric ether as an anæsthetic.—*Med. and Surg. Reporter.*

EFFECTS OF OXYGEN AND CARBON ON PLANTS.

Professor Joseph Bohm has communicated to the Academy of Sciences, of Vienna, some curious and interesting observations in vegetable physiology. He has found that young plants produced from seeds germinating in pure oxygen gas of ordinary density speedily die, although they continue to consume oxygen to as great an extent as when they are growing in the atmospheric air. The young plants thrive, however, in pure oxygen when the density of the latter is reduced so as to represent only a pressure of about six inches of mercury, or when pure oxygen of ordinary density is mixed with four-fifths of its volume of hydrogen. Professor Bohm also investigated the action of carbon upon the growth and greenness of plants, and found that an intermixture of only two per cent. of carbonic acid in the air in which plants are growing suffices to retard the formation of green coloring matter (chlorophyl), and that the process is almost or entirely suppressed in an atmosphere containing twenty per cent. of this gas. No germination of seeds took place in an atmosphere consisting of one-half carbonic acid. From his experiments the professor concludes that either the atmosphere of our planet was much richer in carbonic acid than at present in early geological periods, especially during the formation of coal deposits, or the plants of those periods, in their relation to carbonic acid, must have been very differently constituted from their existing descendants.—*Med. and Sur. Reporter.*

SALIVA AS A CURE FOR RHEUMATISM.

Some one writes to the editor of the *Medical Press and Circular* that he has repeatedly cured himself of rheumatism by rubbing the affected part with his own saliva. As saliva is too common to become an article of traffic, the new treatment is not likely to become popular.—*Med. & Sur. Reporter.*

CASES AND METHOD OF SKIN GRAFTING.

In a recent number of the *British Medical Journal* a report is given, from the Royal Infirmary, of Edinburg, of Mr. J. Bell's method of skin grafting.

In procuring portions of skin for grafting, Mr. Bell takes them from some sound portion of the patient's body, preferably from the arm. A piece of skin is pinched up by a pair of common catch-forceps, and cut off to the required size with a pair of scissors. This piece is divided into smaller pieces about the size of a grain of rice, and is planted among the granulations of the ulcer by means of a probe, one small piece being sufficient for about a square inch of surface. Over each of the grafts is laid a piece of gutta percha tissue, half a square inch in size, previously dipped in some antiseptic solution. The ulcer is then covered by two layers of similar pieces of gutta percha tissue placed on each other in an imbricated manner, and over these a dressing of antiseptic gauze and a bandage. This dressing is not removed for two or three days, when it is replaced as at first. To insure success before grafting, the ulcers should be free from fœtor, and the dressing changed under spray. The advantages of this method of grafting are alleged to be, that no special apparatus is required; that it is extremely simple; and that, by the movement of the pieces of gutta percha on each other, the grafts are protected from all sources of disturbance.

TEST OF PURE AIR.

Dr. Angus Smith gives a good rule for ascertaining the amount of carbonic acid in the air of houses: "Let us keep our rooms so that the air does not give a precipitate when a 10½ ounce bottleful is shaken with half an ounce of clear lime-water;" a sanitary regulation which is easily carried out.—*Med. & Sur. Reporter.*

HANDY METHOD FOR HYPODERMY.

A writer in the *British Medical Journal*, Dr. John Crombie, writes :—

“In consequence of the dearness and delicacy of the syringe, the hypodermic application of morphia, although by far the most beneficial when the drug has to be continued for any length of time, has not come to be so extensively used as otherwise it would. I have devised a singular and much less expensive method, by coating a fine silk thread with the required quantity of morphia, which, when introduced in the manner of a seton, by means of a fine needle, with the eye close to the point, enables us to deposit the morphia beneath the skin, by slowly drawing the thread through the opening. This suppository has to be dipped in water immediately before application, and as it is passed through, which must be done slowly, a drop or two let fall on the end still to be passed, so as to moisten the morphia. The process does not cause more pain than injection by the syringe, even when the point of the latter is in condition, as only one-eighth of an inch of skin is traversed, and, as it simply requires a needle, does not entail expense, either for purchase or repairs ; and, so I should hope, may be the means of extending the benefit of subcutaneous morphia among the poor, for whom the syringe is too dear and delicate an instrument.”

OUR WEIGHTS.

Upon the average, boys at birth weigh a little more, and girls a little less, than six pounds and a half. For the first twelve years the two sexes continue nearly equal in weight, but beyond that time males acquire a decided preponderance. Thus, young men of twenty average about 143 lbs. each, while the young women of twenty average 120 lbs. Men reach their heaviest bulk at about thirty five, when they average about 152 lbs. ; but women slowly increase in weight until fifty, when their average is about 128 lbs. Taking men and women to-

gether, their weight at full growth averages about twenty times as heavy as they were on the first day of their existence. Men range from 108 to 220 lbs., and women from 88 to 207 lbs. The actual weight of human nature, taking the average of ages and conditions—nobles, clergy, tinkers, tailors, maidens, boys, girls and babies, all included—is very nearly 100 lbs. These figures are given in avordupois weight; but the advocates of the superiority of women might make a nice point by introducing the rule that women be weighed by Troy weight—like other jewels—and men by avoirdupois. The figures will then stand: young men of twenty, 143 lbs. each; young women of twenty, 160 lbs. each; and so on.—*Sanatarian*.

FAT AND LEAN.

Meat eaters and vegetarians show in their persons the effects of the diet. The first has the most brain force and nervous energy. A mixed food of animal and vegetable rations developes the highest intellectual powers. A strictly vegetable living ordinarily gives a fair complexion and amiability, and extreme pugnacity when the vegetarian's views in regard to that one engrossing thought of his life are discussed. They are annual meeting reformers, without ever setting a river on fire. Arabs are a sober, frugal race, rather slender, not tall, conscientious and contentious on religious subjects. They largely subsist on rice, pulse, milk and keimac, something similar to whipped cream, through a vast region of an arid country where they are indigenous. They are not destitute of mutton, goats, camels and game; but they manifest no disposition to feed upon meats, as is necessary in temperate zones or in high northern latitudes. An intellectual man, one of their kindred, who rises to distinction by the grandeur of his mental status, is extremely rare. The beer and ale drinkers expand and grow fat, but they are not much given to profound researches in science.—*Med. & Sur. Reporter*.

A SCRAP OF HISTORY.

The *Chemist and Druggist*, in a late editorial, acknowledges the indebtedness of science to Paracelsus in these words :—

“This gentleman, who was born in 1493, seemed to carry with him into the sixteenth century a judgment and experience matured by an acquaintance with the practice and theories of the nineteenth. He treated the schools of physic then in existence with the scorn and ridicule which probably they well deserved, and he went about administering the then almost unknown medicines, antimony, opium and mercury, with such skill and judgment, that his cures and his fame as a physician soon spread all over Europe, without the aid of newspapers, while these medicines, which he may be said to have introduced, have maintained almost exactly the reputation which he assigned to them even unto this day. Such an extraordinary instance of a man living before his time is hardly on record in any branch of learning.”

THE PHOSPHATE OF ZINC.

Dr. ROUTH, of London, says :—

A very elegant preparation of phosphorus is the phosphide of zinc. My experience with this medicine is very extensive. I have never known it to produce the least unpleasant effect, and have rarely been disappointed in obtaining the full results to be expected from phosphorus in corresponding doses.

The chemical formula of phosphide of zinc is 6Zn_3 , and consequently one grain represents a little more than 1-7th of a grain of phosphorus. The proper dose is, therefore, 1-7th of a grain. I usually prescribe it in cerebral congestion according to the following prescription:

℞. Zinci phosphidi, gr. iij. ;
 Ros. conserv. q. s. ut fiant, pill xxx.
 Dose, 1, *ter die*.

Instead of the conserve of roses, gr. x. of ext. nucis vomicæ may be substituted if strychnia is required.—*Med. & Sur. Rep.*

Proceedings of Societies.

MISSISSIPPI VALLEY DENTAL ASSOCIATION.

The 29th annual meeting of the Mississippi Valley Dental Association was held in the lecture room of the Ohio Dental College, in Cincinnati, on Wednesday, March 5, 1873. The meeting was called to order by President Rehwinkel, and opened by prayer by Dr. James Taylor, after which the roll was called and the minutes of the 28th annual session read by the secretary, which were approved.

The Executive Committee made the following report which was acted upon and adopted by the Association :

ORDER OF BUSINESS.

- 1st. Calling of the Roll.
- 2d. Reading of the Minutes.
- 3d. Reports of Standing Committees—Executive Committee—Committee on Membership—Committee on Ethics.
- 4th. Reports of Special Committees.
- 5th. Election of Members and Payment of Dues.

ESSAYS AND DISCUSSIONS.

Subjects—1st. Dental Legislation : Is it practicable ? What benefits to the public and profession may be expected by enforcing such laws ?

2d. Artificial Dentistry: Should it be practiced as a specialty ? What may be done to raise the standard of operations in this department ?

3d. Filling Teeth : What may the patient reasonably expect shall be accomplished by the operation ?

4th. Methods and materials most suitable to obtain the best results in filling teeth.

5th. Dr. Arthur's method of treatment and prevention of decay of teeth.

6th. Conservative treatment of exposed or diseased dental pulps.

2th. Diseased condition of the soft tissues of the mouth—their pathology and treatment.

8th. Dental Fees. What rules should govern the Dentist in estimating the value of his professional services?

9th. The Dental Office—Ventilation—Light—The use of Magnifying Lenses.

10th. The use of mechanical power in operative dentistry.

Members are earnestly requested to prepare essays and papers to be read at this meeting. Those relating to the question under discussion will be read upon the introduction of the subject.

H. A. SMITH,	}	<i>Executive Committee.</i>
I. KNAPP,		
W. P. HORTON.		

Upon motion, it was decided to set apart one hour of the afternoon session of the 2d day for the exhibition of appliances.

On motion it was Resolved, that the secretary notify all members in arrears for dues, and that they shall be considered members in full standing upon the payment of the same.

A committee consisting of J. Taft and A. Berry was appointed to revise the roll.

A committee consisting of H. R. Smith, J. Taft and D. W. Clancey was appointed to consider the propriety of holding the meeting in College Hall, and giving a general invitation to the profession and public to attend.

The committee on membership reported the following names: Seneca B. Brown, Ft. Wayne, Ind.; B. Oscar Doyle, Louisville; J. W. Jay, Richmond, Ind.; James Leslie, Cincinnati; W. H. Eames, St. Louis; J. T. McMillan, Paris, Ky.; W. P. Hall, Piqua, Ohio; S. E. Goe, Cincinnati; H. W. Howe, Chillicothe, O.; all of whom were elected.

It was resolved that the time of meeting should be from 9 to 12, 2 to 5 1-2, and 7 1-2 to 10.

A dispatch from G. W. Keeley, announcing the death of Dr. Rosson, of Troy, O. was received and acted upon with becoming respect; and a committee consisting of Drs. McKellops, Taft and Hunt was appointed to draft suitable resolutions in reference to the same.

Prof. Eames having stated that C. S. Tomes, of London, was on his way west—he was instructed to dispatch to him extend-

ing the hospitality of this Association, and a committee of five was appointed to receive him.

An auditing committee was appointed consisting of Drs. Will. Taft, Hunter and Wheeler.

By consent of the Ex. committee the first subject for discussion was postponed until the morning of the 2d day. Adjourned.

WEDNESDAY, P. M.

Meeting called to order at 2:20. Minutes of morning session read and approved. Committee on College Hall reported through Dr. Taft. Report received and committee discharged.

The 2d subject for discussion—Artificial Dentistry. Should it be practiced as a specialty? What may be done to raise the standard of operations in this department?—was opened by the reading of a paper by Dr. Frank A. Hunter, and continued by Drs. H. R. Smith, J. Taylor, Taft, Hunter, Osmond, Harroun, Eames, H. A. Smith, Horton, McKellops, Berry, Jay, Knapp, Hall and Leman. The president's address relating somewhat to the subject under discussion was read at this place, and on motion a committee, consisting of Drs. Eames, Horton and Knapp, was appointed to take into consideration the universal appropriation of the title Doctor, and if in their judgment, make a report setting forth the sense of this meeting.

On motion, it was decided to dispense with the evening session. Adjourned.

THURSDAY, A. M.

The meeting was called to order by the president at 9 1-2, and after prayer by Dr. Leslie the secretary read the minutes of the last session, which were approved.

A dispatch from Dr. Morgan was read stating his inability to attend the meeting on account of a railroad accident; being painfully, but not dangerously injured.

On motion, the 3d subject, Filling teeth: what may the patient reasonably expect shall be accomplished by the operation? was taken up instead of the first, and was discussed by Drs. Taft, H. A. Smith, Osmond, Hunter, Knapp, Harroun, Rehwinkel, Wells, Palmer, Taylor and Horton—the subject by this time being about exhausted was declared closed, and

the first subject, Dental legislation : Is it practicable ? What benefits to the public and the profession may be expected by enforcing such laws ? was opened by the reading of a paper by Dr. Osmond, which, not pertaining to the subject, was referred back to the author, after which the subject *proper* was discussed by Drs. H. A. Smith, Taft, Harroun, H. R. Smith, Rehwinkel and Horton.

Mr. Hamilton was requested to give his views on Dental Legislation, but wishing some little time to prepare himself and 12 o'clock having arrived, it was decided to hear him at 3 o'clock P. M. Adjourned.

THURSDAY, P. M.

One hour of this session being devoted to the exhibition of appliances, the meeting was not called to order until 3 o'clock. The minutes of the morning session were read and approved, and then Mr. Hamilton, of Washington, Ohio, took the floor and gave his objections to the Dental Law in Ohio, stating that it would be more generally supported if modified so as to include those who had been engaged in the practice of dentistry for a specified time. His remarks caused considerable discussion, during which a dispatch from Dr. S. S. White, of Philadelphia, in regard to the Gardner suit, was read, and received by three cheers for S. S. White.

By general consent a dispatch in answer was sent to Dr. White.

On motion, Dr. Palmer was requested to exhibit and explain his dental instruments, which occupied the balance of the session. Adjourned.

THURSDAY EVENING SESSION.

The meeting was called to order at 7 1-2 o'clock by the Pres. Minutes of the afternoon session read and approved, and then the fourth subject : Methods and materials most suitable to obtain the best results in filling teeth, was taken up and opened by the reading of a paper, by Dr. Stipp.

Prof. Eames, of St. Louis, was requested to describe his experiments in gutta percha, after which a letter was read by the Sec. from Prof. C. M. Wright, of Basel Switzerland.

Miscellaneous business having crept into the meeting, on mo-

tion of Dr. McKellops, it was resolved to hold our next meeting in the city of St. Louis, Mo.

Dr. Cameron, the Treasurer, made his report, which was referred to the auditing committee.

The following bills were presented and ordered to be paid :

Frank A. Hunter, advertising 29th annual meeting, Miss. Val. Ass., \$5 50 ; J. Taft, telegraphing, \$4 00 ; W. H. Eames, telegraphing, \$4 10.

The committee on the universal appropriation of the title of Doctor made the following report, which was accepted, and committee discharged.

WHEREAS, The attention of this society has been called to the fact, that many persons in this and other states, have been in the habit of and now are using the prefix Doctor to their names, without having had the degree of Doctor conferred on them, neither by a dental or a medical college, and

WHEREAS, The use of said prefix without authority, is misrepresenting the actual standing of the persons so using it, and unjust to those who have earned the right lawfully to use it ; therefore

Resolved, That the members of this society most earnestly but respectfully remonstrate against the improper use of the prefix Doctor by dentists, and pledge themselves not to use any title not lawfully belonging them.

W. P. HORTON, }
J. KNAPP, }
W. H. EAMES. } *Committee.*

The 4th subject having been exhausted, on motion, the 6th subject, Conservative treatment of exposed diseased dental pulps, was taken up and discussed by Drs. Hunt, Rawls, Eames and Hunter. On motion, it was decided to continue the discussion the next day. Adjourned.

FRIDAY A. M.

Meeting called to order by the Pres. at 9:15 and after prayer by Dr. Leslie, the Secretary read the minutes of last session which were approved. On motion, the Recording Secretary was instructed to enter upon the minute book the different resolutions and reports of committees.

The 6th subject was continued by Drs. H. A. Smith, McCullom, Knapp, Taylor, Rehwinkel, Hunter, Brown, Stipp, Berry, Clancey and Bradley.

The time having arrived, the Association proceeded to the election of officers for the ensuing year, which resulted as follows :

President,—W. H. Eames, St. Louis, Mo ;

1st. Vice President,—S. B. Brown, Ft. Wayne, Ind ;

2nd. " " " " " " H. R. Smith, Cincinnati ;

Recording Secretary,—Frank A. Hunter, Cincinnati ;

Corresponding Secretary,—A. F. Emminger, Columbus ;

Treasurer,—J. G. Cameron, Cincinnati.

The Association sent a dispatch to Columbus remonstrating against repealing or changing the Ohio Dental Law.

The Committee on membership reported the names of F. A. Wernett and D. C. Hawxhurst, both of whom were elected.

The Auditing Committee reported on the Treasurer's report of 1870, 71 and 72, finding the same correct the Committee was discharged.

The Committee on Appliances made the following report, which was accepted and the Committee discharged :

The Committee on Appliances have had presented to them for consideration crystalline gold, manufactured by James Leslie ; it is highly recommended by those who have used the same, and they think it worthy of a trial.

We have also had presented to us for consideration, a pocket drill, by Dr. Baxter, which seems to be very ingenious and convenient for those that cannot afford a more expensive one, and yet it is so made, that it may be applied to other machines running with a cord, but it is wanting in steadiness. Dr. Baxter also has presented some points for polishing, made from Arkansas stone, which seem to meet a "want long felt."

We have not time to give the details of any of the above.

MERRIT WELLS,	} Committee.
C. PALMER,	
R. A. MOLLYNEAUX.	

On motion, the officers elect were to be installed at 2 P. M.
Adjourned.

FRIDAY P. M.

Meeting called to order by President at 2:30, after which the Secretary read the minutes which were approved. Prof. Eames, the President elect, was conducted to the chair, and after a few remarks by Dr. Rehwinkel (the retiring President) cordially thanked the Association for the honor conferred upon him, and complimented the Association in such terms, that your Secretary blushes to record.

The 6th subject being very popular, was *again* taken up and discussed by Dr. Taft, H. A. Smith, Hunter and Palmer.

The President announced the following Committees for the ensuing year :

Executive Committee.—W. N. Morrison, Mo.; F. H. Rehwinkel, Ohio; P. G. C. Hunt, Ind.

Committee on Membership.—W. H. Goddard, Ky; G. W. Keeley, Ohio; D. C. Hawxhurst, Mich.

Committee on Ethics.—W. H. Morgan, Tenn.; J. Taft, Ohio; H. J. McKellops, Mo.

Committee on Appliances.—H. McCullom, Ky.; D. W. Clancey, Ohio; J. W. Jay, Ind.

The following were elected Delegates to the American Dental Association :

I. Knapp, D. C. Hawxhurst, J. A. Stipp, D. W. Clancey, B. D. Wheeler, James Leslie, J. W. Jay, S. E. Goe, D. W. Roubush, W. F. Harbaugh, H. W. Howe, Frank A. Hunter, C. Welch, Merrit Wells, H. McCullom and C. Bradley.

After ordering the usual bills to be paid, the Association adjourned to meet in St. Louis in March, 1874.

FRANK A. HUNTER, *Recording Secretary*.

AMERICAN DENTAL SOCIETY OF EUROPE.

On the 4th of July, 1873, a few enthusiastic American dentists of Switzerland met at Lucerne, and made the trip of the Rigi; and while on the little steamboat, on the lovely lake, surrounded by the frowning Pilatus, the stately Rigi and the

snow-capped Alps, discussed the plan of establishing an "American Dental Society of Europe."

The object of the meeting was to celebrate the Fourth, and "talk" about founding a society. The "talk" was simply earnest with confident determination to form the first "American Dental Society of Europe," and when the top of the Rigi was reached, all that was necessary was to elect officers for the year, and resolve to devote our energies to the object.

The above name was given to the society, and the following officers elected :

President.—Dr. C. T. Terry, of Zurich.

Vice-President.—Dr. J. G. Van Marter, of Basle.

Recording Secretary.—Dr. C. M. Wright, of Basle.

Corresponding Secretary.—Dr. N. W. Williams, of Geneva.

Treasurer.—Dr. G. W. Field, of Geneva.

Executive Com.—Drs. Van Marter, Field and Williams.

After the election of officers, the session was passed in informal discussions of the practical topics of our profession, and though no report can be offered, the general tone was advocacy of the advanced methods of operating, discussion about the character of cases presented here in Europe, etc. We hope by next year to offer valuable results of observations made in this Old World.

Six thousand feet above the sea, with a magnificent panorama of lake and mountain scenery, and in view of the spot where Swiss liberty was born, the first "American Dental Society of Europe" was born. May she ever maintain her *elevated* position. May she hold her members as high, and may her lofty example raise the standard on every mountain-top in this country.

We ask for the sympathy and recognition of our much-loved American dental associations. As three or four of the officers have been intimate in the old "Mississippi Valley," the "Mad River Valley" and the "Ohio State" societies, we ask for their sympathetic support. The time of the next meeting, and the topics, will be reported in due time.

C. M. WRIGHT, D. D. S., *Recording Secretary*.

BASLE, SWITZERLAND, July 5, 1873.

Editorial.

THE DENTAL LAW.

There seems to be some misunderstanding in regard to the effect of the amendment made to the dental law of Ohio by the last legislature. The whole matter will be apparent by a careful reading of the law as amended, which we herewith append. The law regards those who have been in practice five years and over, as having complied with its provisions, or at least are free from its requirements. But those who seek to enter the profession with less than five years practice, must comply with the requirements of the law, viz : have a diploma from some reputable dental college, or have passed a satisfactory examination by a board of examiners. It was feared by many that the amendment passed by the last legislature, would greatly lessen, if not destroy, the efficiency of the law for good. Though in a small degree in one direction, the law may fail to accomplish all that the most sanguine would desire, yet the great object to be accomplished by the law is not abated one iota. And the profession should now more than ever see to it, that its provisions are complied with by those who enter its ranks, or seek to do so.

The profession has it in their power to make the line of distinction between the thoroughly competent practitioner, and the ignorant, incompetent, so unmistakeably defined and apparent, that scarcely any one need be deceived. Those who enter the profession should have such attainments and abilities as to command attention and respect. The colleges and boards of examiners have great influence over these matters. The foundation of all these things is with the profession, and a prompt and decisive demand from this direction would not be disregarded.

The law as amended is as follows :

A LAW TO REGULATE THE PRACTICE OF DENTISTRY IN THE
STATE OF OHIO.

Amendment to section one of an act entitled : An act to

regulate the practice of Dentistry, in the state of Ohio," passed May 8th, 1868.

SECTION 1. Be it enacted by the General Assembly of the State of Ohio. That section one (1) of the above named act be so amended as to read as follows : That it shall be unlawful for any person to practice Dentistry in the State of Ohio for compensation, unless such person has received a Diploma from the faculty of a Dental College duly incorporated under the laws of this or any other State of the United States, or foreign country, or a certificate of qualification issued by the State Dental Society, or by any local Society auxiliary thereto, provided that in all cases, where any person has been continuously engaged in the practice of dentistry for a period of five years or more, such person shall be considered to have complied with the provisions of this act, and the act to which this is amendatory.

SEC. 2. That said original section one (1) be and the same is hereby repealed.

SEC. 3. This act shall take effect and be in force from and after its passage.

Passed March 10th, 1873.

SECTION 2, 3 AND 4 OF ORIGINAL ACT.

SEC. 2. Any person who shall practice Dentistry without having complied with the regulations of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than fifty dollars nor more than two hundred dollars ; provided, that nothing in this act shall be construed to prevent physicians and surgeons from extracting teeth.

SEC. 3. All prosecutions under this act shall be by indictment before the Court of Common Pleas in the County where the offense was committed, and all fines imposed and collected under the provisions of this act, shall be paid into the Treasury of the County where such conviction shall take place, for the use of the Common Schools within such County.

SEC. 4. This act shall take effect and be in force from and after its passage.

DENTAL EDUCATION.

The subject of dental education is one that ought to elicit the highest interest of every dentist. Every one should feel the importance of the subject enough to examine the character and standing of our educational institutions, and seek, where there are defects, to have them corrected, and sustain those that are most efficient in their work.

Unfortunately there is a great want of interest in this matter, and in many cases not only a lack of interest, but an active opposition, more or less pronounced, either in word or act. Many dentists will discourage students, and often prevent them from entering a dental college; affirming that they will have better opportunities for obtaining the desired knowledge in an office. Others manifest an entire indifference as to whether their students take a college course or not, giving them little or no preparation for it, and manifesting little or no interest what institution, if any, the student enters.

For the erroneous and foolish views, so often entertained by students, in reference to the proper curriculum of study and work preparatory to practice, the practitioners who assume to be preceptors are responsible. We always dislike fault-finding, but when there is so much that could be easily done, that is not done, we sometimes become a little impatient. There are however, quite a variety of phases that attach to this matter. And as an illustration of the influences exerted to induce teachers and faculties to let down their just rules and requirements, which they in their best judgment have seen fit to establish, with a view to the best good of all concerned, we here give the main points of two letters just now come to hand.

"Sept. 13th, 1873.

Dear Doctor :—It will be impossible to be there more than half the time, and I want to know definitely, if possible, if more than half fees would be exacted. Unless there be some inducement, it seems hardly worth the while to go there, when I can be accommodated nearer home, and save traveling expenses. I feel the need of help, and would gladly stay through.

but, situated as I am, cannot possibly more than half. Please write soon that I may know what to expect. *"

Another year and a half student.

"Can I graduate from your college, if I take one course of lectures If I can't, then I know I can elsewhere. *"

We have had many inquiries and propositions of a similar character, and have as often referred such applicants to the regulations of the college, with the statement "that the faculty declines to make any special arrangements, or make any special bidding or bargaining, as inducements for students." Any such special arrangements are always demoralizing to all concerned, and will invariably work injury.

There are other influences constantly operating to prejudice the best interests of professional education, such as an over-anxiety to secure large classes, and to graduate the largest number, irrespective of the character of the material composing the classes.

An emulation as to who shall accomplish the greatest good is always laudable ; a purpose is always best accomplished by doing thoroughly that which is attempted.

ELEVENTH ANNUAL MEETING OF THE CONNECTICUT VALLEY DENTAL ASSOCIATION

Will be held at Haynes' Hotel, Springfield, Mass., Tuesday and Wednesday, Oct. 21-22. The Executive Committee invite attention to the following

ORDER OF EXERCISES :

Reading of Records.

Admission of New Members.

Reports of Treasurer, and Publishing Committee.

Election of Officers.

Retiring President's Address.

Induction of Officers.

SUBJECTS FOR DISCUSSION :

1st.—Essay, by George L. Parmele, M. D. Subject not announced.

2nd.—Sensitive Dentine, its connection with Neuralgia, or a Neuralgic Diathesis.

3d.—A case of Fractured Maxilla, (treated by Dr. Gunning, of New York.) Essay, by C. A. Brackett, D. M. D.

4th.—Failure of Teeth Filling.

5th.—Building up of Teeth worn away by Mastication.

6th.—Has experience proved the expediency of Deep Chambers, and Artificial Ridges?

7th.—Miscellaneous Subjects.

Holyoke, Mass., Sept. 23, 1873.

L. C. TAYLOR, *Sec'y.*

A NEW FILE CARRIER.

We have used for a few days a file carrier invented and constructed by Dr. Bowman, of Columbus, O., that is superior in some respects to any other carrier we have seen. It is very simple in construction, is not easily broken or disarranged, it holds any thin file very firmly, and a thick file is easily adapted to it; there is no tremor or springing of the file while being used. The file runs parallel with the handle. This is a valuable instrument, and should be in the hands of every operator. They will soon be in the market.

DENTAL ASSOCIATION.

At the annual meeting of the San Francisco Dental Association, held Monday, Sept. 8th, 1873, the following officers were elected for the ensuing year: *President*, Dr. S. W. Dennis; *Vice President*, Dr. H. Austin; *Corresponding Secretary*, Dr. H. E. Knox; *Recording Secretary*, Dr. S. E. Knowles; *Treasurer*, Dr. J. J. Birge. The President, on taking the chair, refreshed the memories of the members in a few happy remarks on the work that had been accomplished by associated efforts, and called their attention to the vast amount of work that could, and would be done in the future, by a unison of action between officers and members. The best of feeling prevailed.

THE
DENTAL REGISTER.

VOL. XXVII.]

NOVEMBER, 1873.

[No. II.]

ADDRESS—INTRODUCTORY TO THE COURSE
OF LECTURES AT THE OHIO DENTAL COLLEGE,
OCT. 15, 1873.

BY J. S. CASSIDY, PROFESSOR OF CHEMISTRY.

Gentlemen :—Permit me to assure you, that it is a pleasure to me, as well as a duty, to act on this occasion as the representative of my colleagues of the faculty, and extend to you a cordial welcome.

The beginning of a course of lectures in an institution of this kind is an event of considerable interest to all parties concerned. Especially is it so to the student, who, for the first time, enters upon a regular course of training, preparatory to commencing the legitimate practice of his chosen vocation. His position is entirely new in its relations to his past experience. He comes a stranger and finds himself in the midst of confidential friends. The unknown faces that surround him to-day, and which he scans with the interested intensity of the practised physiognomist, will greet him to-morrow, with the

smile of familiar recognition due to an old acquaintance. There is unrestrained interchange of newly acquired ideas, and to the novice in the ways that are difficult to understand, assistance and encouragement are most lavishly extended, so that, indeed, unless his mind be prematurely soured by the "acid secretion" of a misanthropic brain, he will find among his grown-up, incipiently aged classmates, a sufficiency of the joyous element of human nature to render the time of his association with them one of the pleasantest periods of his existence.

But while it is eminently proper that you should seek every opportunity for the cultivation of enjoyment, and of the social freedom that always exists among those who are daily brought together in the pursuit of the same laudable object, and whose spirits possess the redundant buoyancy of early manhood, it is well to remember that you have not come here to enjoy a holiday. You begin to-day the systematic study of science and art, in their application to the requirements of dentistry, and the field to be traveled over in this connexion is so large, so rich in essentially useful facts, that he who would garner the sheaves of knowledge must be no laggard; he must work earnestly and incessantly. For in order to merit the high standing to which every student should desire to attain, there must be on his part close application, untiring industry and diligence; not, however, to the extent of weariness for that would tend to render negative the results you wish to accomplish. "All work and no play makes Jack a dull boy."

Permanent success in any calling is attained only by means of well-directed, persistent labor. The fortuitous circumstances by which apparently many individuals are elevated above their peers in the social and political world, cannot be ascribed as either the remote or proximate cause of the success which invariably awaits the devoted student. Within his own brain must be arranged and analyzed whatever is perplexing or formidable in the technicalities or nomenclature of descriptive science, and their uses in practical art. And herein is his reward immediate and lasting. His labor becomes "a labor of love," and his newly acquired knowledge an ever

present source of satisfaction, gratifying to his pride, ennobling and enriching his mind and heart with an exalted pleasure, sweet, and unalloyed, and unceasing.

You will find as we proceed in the session, that the course of instruction you are called upon to follow has been arranged with a view of your complete and entire mastery of all the subjects presented, and hence to preparing you in the most thorough manner for commencing your special practice. Your curriculum has been selected with careful reference to obtaining the best practical results. There is no time for you to spare to deal in abstruse ideas. However much the world of science may be indebted to the transcendental dreamers of the past and present, the world wrapped in its utilitarian garb refuses to acknowledge the benefits it has derived from their labors, except as it appropriates to itself their victories over the unknown. You are not to wing your fancies into regions unexplored by others. There is so much already known of the useful and the beautiful within the limits of investigated truth, that for you to go outside its bounds and into the domains of the hypothetical would be a waste of precious time. It is, of course, the high prerogative of every individual to enter and investigate the illimitable fields of science and art and literature, according to his capacity and pleasure, but the object of your presence here is not of a general nature ; it is to obtain, if possible, all the facts now known relating to the theory and practice of dentistry. You are to lay a deep and broad and solid foundation upon which you can stand as capable and honest men ; and upon which you can base your future studies and investigation, so as not only to insure a profitable and speedy return for your labor, but also to acquire a systematic method of obtaining an easy and pleasant acquaintanceship with truth.

Your time is limited to a certain specified period, so also must your studies be limited and definite as to quantity and quality. It must not, however, be understood that your attention will be confined to the consideration of subjects that possess direct and exclusive bearing upon the truth. They, indeed, are the central axis around which must revolve your thoughts.

and to their study you must apply all the knowledge and ability you can acquire. You are taught to study their development from the moment the microscope is able to detect their infinitesimal beginning as parts of embryonic life on to the period of their full maturity ; to acquaint yourselves with the causes and progress of the diseases to which they are subjected, and the surest means at our command to be employed in preventing their destruction. But primarily a knowledge of some of the collateral sciences is essentially needed. You must, for instance, become familiar with general anatomy. The intimate relations existing between the different parts of the body—all alike subject to the vicissitudes of disease, and finally to the certainty of death—compel a careful examination of all in order to act intelligently in the treatment of a part. The specialist cannot restrict himself to the exclusive study of his favorite organ : he cannot separate it from its connexion with surrounding parts, and, thus isolated, give an intelligent explanation of the cause and progress, and probable termination of any morbid condition with which it may be afflicted. He must first acquaint himself with the complete mechanical arrangement of the body in all its grand and beautiful entirety, and then his more intimate study of special portions becomes a work of easy and clear conception, fully appreciated, because understandingly followed. Side by side with anatomy is placed the important science of physiology ; important and of deep interest to all, because it treats of the natural functions performed by the living organism, by which life is propagated and maintained. It is a science which seeks satisfactory explanation of the observed phenomena occurring in all living things. It illuminates and discloses to your delighted view some of the recesses of hitherto darkened chambers wherein you see and comprehend the normal processes of natural action continuously at work ; where every part is attuned to play in unison with the universal harmony of nature.

There is no branch of science that merits more of man's studious consideration than physiology ; nor can he devote himself to a more pleasing task than to studying its teachings ; aside from the exquisite pleasure you will derive in pursu-

ing your studies on this subject, it is of the utmost importance that you should become familiar with the laws of health, with the natural functions performed by the different organs. 'Tis only by your previous knowledge of normal action in possibly remote parts, that can enable you hereafter in many cases to detect the difference between a nervous sympathy and an actual disease of the organs entrusted to your care.

The mere administration of an anæsthetic for the purpose of procuring the unnatural condition of insensibility to pain during the most trivial operation in surgery, requires, on the part of the operator, a higher degree of proficiency in knowledge of the laws of physiological action—and hence the ability to discriminate correctly in every instance, that the life of the patient may be undoubtedly assured—than practitioners of long and eminent standing pretend to possess. Witness the numerous sad cases of death by chloroform, notwithstanding every precaution, and where *post mortem* examination utterly fails to detect the slightest lesion of any of those organs wherein death is supposed to commence.

I allude to this subject not to call in question the high attainments of any one, but for the purpose of impressing upon you the necessity of applying yourselves while here with all the diligence you are capable of to the careful study of man's strange mechanism and the laws that govern it.

To aim only at the high standard demanded by the institution which you hope ere long to claim as your Alma Mater, or in plain language to get through just by "the skin of your teeth," is unworthy the aspirations of honest ambition. Who are they whose unfitness to pursue their professed vocation is recorded in heaven and perhaps, also, in the world of perdition? Some of them, alas! are graduates of medicine and dentistry, whose "diploma in office will show." Men whose better instincts—if they ever had any—have been perverted; and whose only recognized ability is the power of deceiving a confiding public. Men whose daily existence is a lie and a fraud, a travesty on honesty and common sense. You have a higher and holier motive to impel you to greater exertion than the simple expectation of obtaining the privileges that a diploma confers.

There is another branch of study which will demand your most earnest attention, and of which we will have a good deal to say during the next few months—I allude to chemistry. Born in the laboratories of the dreaming alchemists, and nurtured by their persistent efforts to succeed in discovering the mythical elixir of life, and in transmuting certain metals into gold, it has grown steadily apace with modern progress, and now its immense development in every country on the globe has added immeasurably to the comfort and happiness of mankind.

Anatomy, physiology and chemistry are the foundation stones upon which is reared the noble edifice of medicine and surgery. It is by means of your acquaintance with these three sciences, that you will be enabled to pursue with profit your studies in pathology and therapeutics, and indeed in all the other branches of study that will demand your attention while here.

I have mentioned only a portion of the studies that, from their nature, are most calculated to worry the dental student. His mind is far more at home in learning facts pertaining directly to the nature and preservation of the natural teeth, and to the different modes of constructing artificial ones to supply Nature's loss. Right here, it seems to me, comes in the principal secret of success which has marked the career of nearly all who have availed themselves of the advantages offered for instruction in the necessary collateral sciences, and in the details of practical art, as taught in properly conducted dental colleges. The union of theoretical and practical teaching, the latter understood as including the clinical and mechanical departments, keeping up, so to speak, an equilibrium between mental and manual labor, the one serving as an antidote to the wearisome exclusiveness of the other, could not be otherwise than conducive to the very best interests of the student. The lessons he receives in theory are immediately applied in actual practice, and thus he is conducted along, step by step, from the first dim passage of doubt and uncertainty into the bright atmosphere of hope, and on to the certainty of final triumph. That is, provided always he possesses the requisite natural ability.

It requires no more than ordinary common sense, united to more or less determination, to succeed in obtaining the mastery over the most difficult studies ; but there is also something else needed, in order to become a good dentist. It is what is vulgarly termed mechanical skill. In what attribute is the surgeon superior to the general physician ? Certainly not in superior knowledge of structure, for the ordinary physician is also well informed in anatomy ; nor is it necessarily in long experience, for many a young doctor is far more expert with the scalpel than is his preceptor ; neither does it consist in the power of holding in abeyance the tenderer feelings of humanity, for as a rule the most skillful surgeon is the most sympathetic and the kindest of men. My answer is, the attribute consists simply in his possessing intuitive mechanical skill ; and so also to the dentist, this peculiar faculty is an imperative necessity. Without it, the so-called dentist is a bungling nuisance ; and with it to obey the commands of the knowledge acquired by scientific education, your future success will be well assured.

It is, therefore, your duty, gentlemen, to cultivate and train this gift to the highest degree of artistic excellence, to be ardent in seeking close familiarity with all the truths which science teaches, and my word for it, you will go forth from these halls as men worthy the highest standing in the brotherhood of dentists. You are here to qualify yourselves for the practice of a profession that has received contribution from nearly every mechanical pursuit ; it has searched through the inexhaustible stores of its parent medicine, holding fast to that which is good, and in return, it has given to the world some of the most useful discoveries, so potent in assisting Nature in her continual conflict with disease. And notwithstanding that it has thus been productive of magnificent results, and has been so extended that the labor of years is required to enable the mind of the student to grasp it in its various branches, its capabilities for the future are probably greater than its development in the past, and there are few departments in which man's desire to investigate can find freer play, or his labor more certainty of ultimate reward.

DENTAL HYGIENE.

BY DR. W. H. JACKSON, ANN ARBOR, MICH.,

Read before the Michigan State Dental Association.

Hygiene is the art of preserving health ; that is, of obtaining the most perfect action of body and mind during as long a period as is consistent with the laws of life. In other words, it aims at rendering growth more perfect, decay less rapid, life more vigorous, death more remote.

Dental hygiene is the art of preserving the teeth ; yet it is so closely connected with general hygiene, that it seems almost impossible to separate the one from the other ; in fact, I am unable to draw the dividing line, for that which gives the most perfect health should also preserve the teeth to the greatest age, as decay in the teeth is nothing but disease of those organs, or the result of disease in associate organs, or both.

First, teeth may decay owing to a diseased formation of their tissues during growth, or from a starved condition of the system in reference to the materials which go to build up the osseous structure.

Second, decay (dental) may arise from vitiated secretions of the mucous membrane of the oral cavities and of the salivary glands, regurgitations from a disordered stomach, want of cleanliness, accidents, etc.

As is readily seen, this subject carries us back beyond infancy, even before the formation of the cell which contains the germ that is to be quickened into life. Some may think that this is going too far, yet who will say that the child does not resemble its parents ? If they are weak and sickly, as a general rule the child will be sickly ; if their teeth are badly decayed, the child will almost universally loose its teeth in the same manner. This resemblance may be traced back sometimes to the father, and sometimes to the mother, yet I believe it is more frequently traceable to the latter.

I have no doubt that these hereditary tendencies, many times, may be modified, if not entirely arrested ; still there

may be a hereditary physiological condition of the organs which build up the dental tissues which it is impossible to modify ; such as the shape of the teeth, the absence of certain teeth in the mouths of some families, and the general structure of the tooth substance.

In accordance with the belief of most physiologists, the thoughts and emotions of the mother's mind influence the future character of the child. In like manner, I believe that the future condition of the child is influenced by the materials which form the pabulum that feeds the child during intra-uterine life.

We are too apt to attribute the poorly ossified teeth of the child to a hereditary predisposition to decay, when in fact it is not properly a pathological condition of the organ that forms them, but it is the absence of the necessary materials with which to build a perfect structure.

The crowns of the temporary teeth are formed during intra-uterine life. During that period the mother is called upon for a greater supply of the inorganic materials which are required for the formation of the osseous system of the child. How is the mother to comply with the demand ? Upon examination we find that a sufficient quantity is not contained in the food she eats, or the water she drinks. What is the result ? The mother is deprived of a portion of that which should have gone to repair the changes taking place in her own osseous system, the effects of which are so often seen in the rapid decay of her teeth during gestation and lactation. I have seen several cases where, in the short period of nine months, good substantial sets of teeth, which ought to have lasted during their natural life, pass beyond all hope of recovery from no other apparent cause.

The effect upon the child is equally bad, for the supply is limited until the crowns of the temporary teeth are formed, and the organs which deposit the osseous substance (and I might add, the nerves which govern these organs) have formed the habit of doing their work poorly, or perhaps ceased to act entirely on account of continued forced idleness. As an illustration of this, you will generally find in strabismus, that du-

ring infancy the eyes have nearly equal power. By use, one eye becomes strong, the other becomes weak from want of use; and after a time the weak eye nearly, and sometimes quite, loses its power of sight. A person who becomes by accident or disease absolutely deaf, is very apt to lose his speech gradually, until he is unable to articulate at all.

What is necessary to be done, then, is to supply the mother with an abundance of those materials which go to form the teeth. If they are not to be found in the different articles of food the patient eats, supply them artificially in the form of hypo-phosphite, lacto-phosphate, or common phosphate of lime. If these are not to be obtained, aqua calcis may be used with care. During childhood the same should be given whenever there is any tendency toward caries or imperfect development. In cases of low vitality, it may be necessary to give tonics and stimulants to arouse the system to increased action.

I do not regard the phosphate of lime so much a medicine as a food which the body requires for the building up and preservation of the teeth and bones. Deprive them of it, they will starve just the same as the soft tissues would, should the inorganic food be in excess of the organic; and one is just as essential to perfect health as the other.

Hence it is necessary that the parents have perfect, healthy teeth, in order that the child may inherit the same tendency toward perfect dentition. If the parents have poor teeth, it is the duty of the dentist to give such treatment as will place the parents' systems in the most favorable condition possible, that the child may not inherit the curse already upon the parents. In my own practice, I have often seen, during gestation, the mother's teeth decaying rapidly, showing a white line along the margin of the gums and extreme sensitiveness at the necks of the teeth. These symptoms have nearly always disappeared by the administration of the phosphates, the white line disappearing and the teeth becoming hard. In such cases the mother should continue to take the phosphates during the full period of gestation, also during lactation; and whenever, during adolescence or adultage, symptoms of decay appear, the same treatment is indicated. To be sure, there are times when the system is generally diseased, also when the associate organs

are diseased ; that the secretions cannot be corrected without other treatment ; and it should be one of the qualifications of the dentist, to properly diagnose and treat these pathological conditions which come within his jurisdiction ; for without such knowledge, he is unable to preserve the teeth, because of the improper surroundings. We would not think of trying to live in a room filled with carbonic acid, or one in which a great proportion of the atmosphere was carbonic acid, because we have found that it destroys life ; yet we allow our patients to come to us for advice, and we allow them to go away without giving them anything to correct the secretions of their mouths, while their teeth are surrounded by fluids which are as detrimental to their teeth as carbonic acid is to the respiratory organs.

But for me to write an article covering all that comes under this head, would impose on your good nature too much, were I capable, and had the will to do so.

You have all read of the necessity of cleanliness, such as removing all calculi that may adhere to the teeth, also removing whatever food may become lodged between the teeth, brushing thoroughly, and removing superficial caries ; and I have no doubt that most of you would proceed, in case you should find a cavity, to fill the same ; so without trespassing any farther upon your time, I will close this already too long article.

REMARKS ON METHYLENE.

Dr. Richardson says that this anæsthetic is rapid in its effect, that "from one to two drachms will induce, in the space of a minute and a half to two minutes, sufficient insensibility for a short operation, while from two to six drachms are sufficient for the production of prolonged anæsthetic sleep." The sleep induced is very gentle, and rarely attended with convulsive movement ; vomiting is less frequent than from chloroform, ether, or bichloride of methylene.—*Med. and Surg. Reporter.*

DENTAL EDUCATION.

BY G. R. THOMAS, D. D. S.

In attempting to write upon a subject so full of interest and of so wide a scope, one is overcome with the extent of the undertaking, and in the present paper I shall only hope to make a few suggestions which may enlarge our field of vision and lead us to new thoughts for ourselves. The education of a person for any calling in life, depends almost entirely upon the person himself; and according as he is possessed of energy, courage, perseverance, a love of his occupation, and last, but not least, true gentlemanly courtesy, so in proportion will he be likely to succeed. One may not be possessed of actual genius and yet be successful, but the other qualities I have named seem absolutely essential.

First, then, energy seems to be a requisite. How many men do we see, contented with the droppings from other men's hands, and too weak to overcome the obstacles necessary to perfect themselves for active pursuits! True energy mingled with courage are priceless endowments for a young man beginning in business, very many are the rough and stony places which these two attributes will help him to pass in safety. Many are the times with nearly every man when "thick darkness" seems about to envelop him; but courage comes to his rescue, strengthens his energy, and he *perseveres*. The third characteristic then follows the other two. We have all seen many men select a calling in life, follow it a short time, *become discouraged*, leave it and try something different, which in time they also give up. What shipwreck they make of life! "Driven of the wind and tossed," they are at length stranded on the shores of time, and people point them out and say that was a staunch, trim ship once, but now even the old timbers are fit for nothing but the "drift-wood fire."

In starting in any business, a man should examine it thoroughly beforehand and see if he has fitness for it, if he thinks it will be congenial to his tastes, and if he can bring his energies to bear upon it. We will suppose a young man, with these

qualifications, has decided upon the practice of dentistry. With these, he should be possessed of a good constitution and great powers of endurance ; for those of us who have been long in the profession can testify to the wearing effect it has upon both mind and body. Who of us has not experienced the intense fatigue consequent upon protracted operations at the chair ? And when continued day after day, it will tell upon the *strong* man, and much more surely on one delicately organized. There are few indeed, of our professional brethren, who have been able to stand against the constant drain upon the energies of the system. For this cause it is my firm belief that it is an impracticable idea for women to enter the practice of dentistry. There may be a very few exceptional cases, but, as a rule, those very characteristics which it is argued would make superior dentists of them—i.e. keen perceptive faculties, delicacy of touch and the great preponderance of nerve over physical force, would soon be the cause of complete failure of health. The constrained position the operator is obliged to assume, and continue in for hours together, would, doubtless, under certain circumstances, prove very disastrous and perhaps fatal to a female operator. There are a few women, who have perhaps sufficient nerve to engage in this profession, who are willing to live in single blessedness, but for a married woman such an effort would prove utterly futile.

The man who takes up a profession, simply with the idea that it will bring him a livelihood, who has no love for it, no enthusiasm in it, will never make much progress ; he will plod along from year to year, and do as little as he can for the money. But he who puts his heart into his handiwork, who every day seeks to improve on the day before, and looks with true pride on his achievements as they grow under his hands, will truly succeed. There are different phases presenting themselves to the practitioner with every new patient, and developments of disease which may be utterly strange, and will require great delicacy of treatment. Think you that man who has left the shoemaker's bench or the blacksmith's anvil and studied long enough to make a tolerably looking plate of teeth, is fitted to undertake the treatment of those delicate cases on

which comfort, and perhaps life depend ; and yet, many do so, unshrinkingly and without a blush. The idea that the mere putting up of artificial teeth, or inserting a plastic, (*or gold filling, if you please,*) is all there is to dentistry, has been of greater injury to the profession than can be repaired probably in our day.

The beginning of study for dentistry is not how to fit a plate of teeth into a mouth, but to study the physiology and anatomy of the human system. In the medical profession, no one is deemed entitled to confidence who has not fitted himself for it by a course of study ; and he who would attempt to treat the delicate organs of vision, without proper study, would be set down by intelligent people as a mere quack, unworthy of notice ; and is ophthalmology of so much greater importance than dental pathology, that any one who can extract a tooth can be dubbed Doctor, and entrusted with the care of those delicate organs on which so much of comfort depend ? I trust the time is not far distant, when every dentist shall be a physician ; not that every physician should be a dentist, for it is a specialty by itself as certainly as is ophthalmology. The infinite number of nerves and their minute ramifications, the intimate connection between the organs of the mouth and stomach, render it a matter of vast importance that the dentist should be able to make as correct a diagnosis of any case under his care as would a physician. In administering anæsthetics, the best good sense and judgment are necessary in addition to theoretical knowledge, in order to prevent the serious, and often fatal results, which frequently follow in the hands of inexperienced operators.

The dentist needs to educate in himself certain qualities which will render him congenial to his patrons, and also to his professional brethren. In establishing an office he should make in the beginning, the resolve—and keep it too—that order, and scrupulous neatness shall reign there. His own person should be well attended and neat in every particular, his hands faultlessly clean, and this applies to every one of the fraternity, whether young or old. He should never go from one patient to another without washing his hands, and always keep a plen-

tiful supply of clean towels and napkins for his own use and that of his patients. Instruments should always be thoroughly cleaned after *each* and *every* operation and laid away out of sight. Many seem impressed with the idea that they must have all their instruments on exhibition in order to impress those who come in with the number and variety of their appliances. This is a mistake, it is enough for a patient to know that a painful operation is to be performed, without being greeted with a full view of the instruments of torture. The office should be as near as possible like a private room, and as attractive as the means of the proprietor will permit. There are those, who yearly expend for tobacco and liquors that which, laid out in their places of business, would improve them vastly, and by divesting themselves of the unpleasantness which is always consequent upon these habits would increase the comfort, *if not the number*, of their patients. What lady of refined tastes would go a second time to an operator whose breath betokens a mouth fairly tanned by the use of tobacco? No one in their right mind would trust either a medical or dental practitioner who habituates himself to the use of liquors. If either of these habits have become too strong to be broken off entirely, they should at least not be indulged in at such times as will prevent the possession of a sweet, clean breath when approaching a patient. There are none of us who do not shrink with loathing from a bad breath, even when taken casually, and how much worse when subjected to it during a protracted operation. Keep a sweet breath, then, by all means.

What greater shock can a delicate and nervous woman or a frightened child receive, on entering an office to have a much-dreaded operation performed, than to be met by harsh words or rough treatment. There are often patients who try the good nature of the practitioner to the utmost, yet how earnest is the gratitude frequently expressed after a painful operation, in return for the forbearance which merely cost an effort of the will, and it is not that we should school ourselves to gentleness and patience, only with people of wealth and influence, whose patronage we may feel anxious to retain, but also toward the humbler ones. We all know that wealth is not always the guaran-

ty of worth. In all cases, he who possesses true gentlemanly courtesy, and exercises it, will himself be benefited.

Far too many in our profession, as in others, allow themselves to indulge in detraction of their professional brethren. This is so common that it is proverbial, but how much worse than useless is it to attempt to injure the business reputation of a man because he is of the same occupation as ourselves! Suppose, for an instant, that you are the only one of your profession in your place; could you by any possibility do all that would be required of one, or even two men, and if you could, is it an honorable spirit to wish to deprive a fellow man of the privileges you claim for yourself? The world is large enough for us all, and if we see a brother prospering, why not rejoice with him, and seek to bring about that spirit that will lead to an interchange of ideas, not only at dental associations, but also among those who live and practice in your own society; never allow a word to pass your lips, against a cotemporary, unless you have incontestible proof that he is imposing on the community, and likely to do great harm; do not speak evil of any one because they are building up a good practice and are likely to succeed.

Let us, as members of a profession as yet in its youth, seek to increase its influence and usefulness, by endeavoring to raise the standard of excellence, and as wise master builders lay upon a good foundation the gold, silver and precious stones which shall stand the test of time, and thus encourage those who follow us to build higher and more skillfully, till our noble structure, though begun in weakness, shall be crowned by the dome of perfection and be honored by all nations.

RADICAL OBSERVATIONS ABOUT TEETH.

TO THE EDITOR OF THE DENTAL REGISTER:

I wonder if a few radical observations upon people's teeth and mouths would be in order, from an unscientific and irregular correspondent, though an occasional reader of the *RE*.

ISTER? If so, I shall take the liberty to say what I have in my own way. Pardon the egotism, but I plume myself upon not only being a good observer, but upon having enormous opportunities for observation; and I have also a *penchant* for looking close at people—into their faces, eyes and mouths—as far as I can without offensive obtrusiveness.

I have to observe then, by your leave, that there is an amazing amount of disgusting carelessness about the mouth and teeth. I see men and women every day ordinarily endowed with intelligence, and who have acquired means enough not only to live comfortably, but to entertain, perfectly ignorant of or careless about their teeth. They have the temerity to look you in the face and talk to you within nosing distance, perfectly oblivious of the fact that you have an olfactory nerve. Smiling belongs as a general thing to women and politicians, that is after the period of childhood is passed, but it is really pitiful to observe the futile efforts of sunny-natured women to conceal the hideousness of neglected teeth in the struggle of a smile. In full toilette the fan serves a useful purpose, but, generally speaking, the hand, a book, or a turning away of the head during the cachinatory impulse, are mainly resorted to, and the sweetness of the smile is positively destroyed by the advanced progress of decay. I cannot understand how women with neglected teeth can pass through the ecstatic period of "love's young dream," win a husband and become the mother of children without creating insuperable disgust to the most intimate relation that nature claims, religion sanctions, and society binds and prospers by. I find too, in my mental notes, a singular indifference to appearance on the part of public speakers, such as lawyers and preachers of the gospel. In the former it is more excusable or rather less reprehensible, for their appearance is only before the morbid and low, harried wretches who hang about courts of justice, "Heaven save the mark," like bats in old ruins or in caves of the earth; but there is no excuse whatever for the latter class, to whom the people not only look for precept, but for example in whatsoever things are lovely. I know fellows in the pulpit with whom physical contact is loathsome. They al-

most kill at rifle shot distance. It is wonderful that such easy lessons as Shakspeare taught over three hundred years ago, by the lips of a rude mechanic, are so easily forgotten or overlooked. He makes glorious Nick Bottom adjure the hard-handed men of Athènes thus : "And most dear actors, eat no onions or garlic, for we are to utter sweet breath." How can the oracle of God utter sweet breath with a mouth full of bad teeth, when it was essentially requisite in a parcel of clowns about to enact a play before an earthly prince ?

The grandest character in the New Testament history, writing to the Corinthians said : "What ! know ye not that your body is the temple of the Holy Ghost, which is in you?" I do not hesitate to affirm that Paul used his nail and tooth brushes regularly, and that he was a very model of personal neatness. He was a "marvellous proper man." But to return to my observations. Actors and lyric artists generally are careful of their teeth; indeed, so are that large class known as show people with whom personal appearance is almost everything.

The thoughtful and observant man of the world will recognize at once the important part that personal neatness plays in the most deplorable phase of social life, without any further reference to the subject than to remind the reader of the fact.

I shall never forget a serio-comic poem I heard many years ago, each stanza of which commenced with "She never smiled," and went on in the most dolorous strain about the gradual fading out of every hope until at last the face became fixed and settled into an expression of sadness as unchangeable as the visage of a statue, because, as the last line revealed, "her front teeth were decayed."

It is not my business here to persuade people to go to a dentist, even if they have good teeth, so as to keep them good, for no one is excusable now-a-days for ignorance on that point ; I merely set out to say what I have observed about bad teeth, and I am quite sure I am not alone in that line of observation, for the mouth is one of the first features that fixes the attention of man or woman after the purpose and intent of the *vis a vis* are read in the eyes.

E. B.

TREATMENT OF EXPOSED PULPS.

BY DR. J. S. KING.

In the following case I give a treatment of exposed pulps, that has been in my hands very successful :

About two years ago I made what I deemed a discovery in the treatment of exposed and wounded tooth pulps. My success in this particular since that time, has been exceedingly gratifying to myself, and also beneficial to my patrons. I will here refer to Dr. J. Gillespie, Dr. J. C. Templeton and others of my professional friends in Pittsburg, if desired, whose experience in my mode of treatment has been as gratifying to them, as mine has been to me. I will in this article give my mode of treatment of all exposed and painful pulps, in which inflammation has not terminated in sloughing, and final death of the parts, and if you deem this article worthy of attention, you can use it as you may think best.

Perhaps I can best describe my method by citing a case or two.—Case of Miss S. J. P. Left superior central incisor, for some weeks painful, mesial cavity ; pulp exposed ; in removing the decay preparatory to treatment and filling, considerable bleeding from the pulp ensued ; after applying rubber dam, I thoroughly washed the cavity with a pellet of cotton, well saturated with creosote, thus cleansing all particles from the cavity, and also checking the flow of blood from the exposed and wounded pulp. I then placed on a plate of glass two parcels of Smith's white oxide of zinc ; the smaller one of these parcels I mix with creosote to the consistency of paste ; this mixture I very carefully apply in proper quantity to the exposed nerve-pulp and surrounding sensitive dentine, well covering and protecting the same (yet covering very lightly), so that my next or second covering of oxy-chloride will not at any point come in contact with the exposed pulp or surrounding sensitive tooth bone, thus avoiding all pain resulting from the direct application of oxy-chloride to exposed pulps and sensitive dentine. The first application of white oxide and creosote being now in place, by carefully compressing it

with a small pellet of cotton wrapped around a small bur-head-excavator, and then removing any excess that may remain around the border of the cavity, I then mix the second parcel on the glass with the usual chloride of zinc, a little softer than the first so that it will not displace the same. With this I proceed to cover up the first application, and also to fill up the cavity to the extent I wish, and allow it to harden ; after which I proceed to cut away sufficient of the oxy-chloride to give me proper retaining points for the insertion of a good gold filling. When a tooth has been painful, or the pulp largely exposed, I usually postpone the insertion of the gold filling, until after the expiration of ten days or three weeks, thus giving nature ample time for proper recuperation. This case of Miss S. J. P. was of more than usual interest to me. Some thirteen months after the insertion of said filling, I removed it and the covering, and found the pulp in good condition ; it again bled freely from being wounded by my excavator. I was disappointed in not finding secondary dentine deposited as a protection to the pulp. I again immediately resorted to the former treatment, and filled once more with the same happy result.

Again in another case, I excavated a large labial cavity in a lower right third molar. Pulp exposed and bled slightly ; treated as described in the foregoing of this article ; patient called several days afterwards, tooth entirely comfortable. I expect to finish it with gold in a few days.

In another case, a gentleman called and asked the extraction of a lower left second molar. I examined the case, and found a large distal cavity and exposed pulp. I declined to extract ; I cleansed the cavity, had no bleeding of the pulp. I treated according to my usual custom ; I have no doubt of the result.

THE PRACTICE OF DENTAL MEDICINE.

EDITOR DENTAL REGISTER :—

I see in the Transactions of our State Dental Society, a very good address by Dr. Ingersoll, of Keokuk, president of the society, in which he says :—"Local and constitutional treatment for the various diseases of the teeth constitute the distinguishing feature of our times. I therefore call this the *"Therapeutical Era."*

This may be partially true, but I fear the picture is greatly overdrawn. I have paid much attention to this department of dentistry for a number of years, and I feel that the therapeutical era is quite feeble, and evinces a very superficial knowledge of the principles of medication. I fully concur, however, in the following paragraph, which appeared in the DENTAL REGISTER, for Sept., 1873, p. 401.

"The time is near at hand when the dentist will give far more attention to general hygiene and medication than hitherto, and anything that will tend to bring about such a result, should be received, encouraged and properly used."

We have ever claimed to practice a specialty in medicine, yet most dentists use very little medicine in their practice. It is true, they sometimes apply creosote and arsenic to exposed pulps, but they even do this without any adequate conception of their therapeutical or toxical effects. To come down to the plain truth, a great many claiming rank in our profession do not possess that knowledge which would enable them to treat intelligently the most simple case requiring medication. They are not up to the *"Therapeutical Era"* of Dr. Ingersoll, but he is in the advance guard, and only sees the foreground from the standpoint of his retiring address. This is, perhaps, pardonable under the circumstances, but the status of the profession is not as it should be—up to the standard. We should all understand *special* therapeutics and pathology, and be able to diagnose, prognose and treat the diseases met with in our offices in a legitimate practice ; and be possessed of that general knowledge in these departments, which would enable us to trace the effects of those diseases more remotely affect-

ing the treatment of our patients. So far as I am aware, we have no work devoted especially to the practice of dental medicine, to supply the demands of the profession at the present time. A work of this kind, if properly compiled and arranged, would greatly add to the efficiency of dental practice and instruction, and do more than any other one thing to place our profession in a proper relation to the parent professions.

It would require a great deal of labor to produce such a work, as it were, out of chaos, but I hope it will soon be accomplished by some one competent for the undertaking. The leading members of the profession should be called upon in some suitable way, and they should respond cheerfully to aid in this good work, so that when it appears it shall reflect the medical practice and experience of those most competent in our ranks. Let me hear from the REGISTER on this subject.

Yours truly,

DES MOINES, IOWA,

E. M. MORRISON.

October 21, 1873.

Proceedings of Societies.

PROCEEDINGS OF SEVENTH ANNUAL MEETING OF THE OHIO STATE DENTAL SOCIETY. HELD AT COLUMBUS, O., DEC. 4, 1873.

The meeting was called to order at 11 A. M., by the Vice-President, I. Williams, in the absence of the President, and opened with prayer by Rev. Mr. Laidlaw; a large number of the members answering to their names on the calling of the roll. The minutes of the previous meeting were read and approved.

Dr. Blount suggested that the president appoint some one in his place on the Committee on Membership, and that those

desiring membership make application immediately after adjournment.

The President appointed Dr. McKinley.

Dr. J. Taft moved that a committee of three, consisting of the Secretary, Treasurer and one other member, be appointed to correct the roll of membership. The motion prevailed.

The President appointed Dr. Herriot as the additional member. Dr. J. Taft moved that a committee of three be appointed to consider the propriety of holding a "Quiz" during the session and to make such suggestions as they deem best ; which motion prevailed.

The President appointed as that committee, Drs. H. A. Smith, Cin'ti ; A. A. Blount, ringfield ; and G. W. Keely.

On motion it was agreed that the morning session be from 9:30 A. M. to 12:30 P. M., the afternoon session from 2 P. M. to 4 P. M., and the evening session from 7:30 P. M. to 10:30 P. M. After discussion in regard to the propriety of holding an evening session, the matter was left with the Executive Committee to determine.

On motion of J. Taft, the Society adjourned until 2 o'clock P. M.

AFTERNOON SESSION.

The Society reassembled at 2 o'clock. The minutes of the forenoon meeting were read. The report of the Committee on Membership being called for, Dr. Porter stated that they were not yet ready to report.

The next topic, "The Burring Engine," was then taken up for discussion, Dr. H. A. Smith read an essay on this topic, which, on motion of Dr. Taft, was received and referred to the Committee on Publication.

The discussion of this topic was opened by Dr. Herriot and further participated in by Drs. Rosson, Jennings, Buffets, Siddall, J. H. Warner, C. R. Taft, Williams, Gray and Clancy.

On motion of Dr. Kelsey, the Society passed to the discussion of the next topic ; viz, "The best means of preserving the eye-sight of the dental practitioner." Essays were read upon this topic by Drs. Porter and I. Williams, which, on motion, were received and referred to the Committee on Pub-

lication. The discussion was continued by Drs. Bufllett, R. G. Warner, Kelsey, Herriot, Jennings, Rosson and J. M. Porter.

Dr. Porter from the Committee on Membership reported as suitable persons to become members of the Society : L. B. Welch, Wilmington ; C. G. Von Bonhorst, Lancaster ; J. H. Warner, Columbus ; C. B. Knowlton, Elyria ; J. F. Siddall, Oberlin ; J. B. Beauman, Columbus ; D. W. Clancey, Cincinnati ; W. E. Hawley, Easton ; N. C. Sine, Delaware ; and C. R. Sabine, Troy. On motion of Dr. Taft, the report was received and the Society proceeded to ballot for the candidates.

Dr. Rehwinkle moved that the Secretary be authorized to cast an affirmative vote for those proposed for membership in order to save time and expedite business.

Dr. J. Taft moved to amend, to provide that if there was no objection to the persons named. The amendment was accepted.

Dr. J. Taft suggested that the applicants retire from the room while the vote was being taken, which they did. He also suggested that each one be balloted for separately, so that if it was desired to ask any questions in regard to any candidate, they might have full opportunity to do so. The suggestion was acted upon.

Dr. Porter, Chairman of the Committee on Membership, at the request of Dr. Taft, made some remarks in regard to the examination of candidates, stating they must have either a diploma from a Dental College or a certificate from the State Board of Examiners, before they can be received as members of this Society. Dr. Smith, from the committee appointed to consider the propriety of holding a "quiz," reported that they recommended the holding of a quiz of half an hour's duration at the commencement of the evening sessions, and that Dr. Herriot conduct the same on the first evening, Dr. Harroun on the second evening and Dr. Kelsey on the third evening. On motion, the report was accepted and adopted.

Dr. Rosson suggested that the Executive Committee arrange for the holding the next meeting before leaving Columbus.

Dr. Rehwinkel coincided with this suggestion and further suggested that the parts assigned to the different members be given them, that they might know what they would have to do.

The discussion on "The best means of preserving the eyesight of the dental practitioner" was resumed by Drs. Rosson, J. H. Warner, Porter, H. A. Smith, Siddall, Rehwinkle and Herriot.

At the conclusion of the discussion the Society adjourned until 7 P. M.

FIRST DAY, EVENING SESSION.

The Society reassembled at 7 P. M. Half an hour was spent in a quiz, conducted by Dr. Herriot. The questions proposed were generally in reference to the burring engine.

The discussion on the second topic was again resumed and further discussed by Drs. C. R. Taft, Harroun, Beauman, Gray, Herriot, J. F. Siddall and J. H. Siddall.

Dr. Rosson offered a resolution of which he had given notice one year ago, providing for the nomination of more than one candidate for each office of the Society.

The resolution was discussed by Drs. Rosson, Warner, Kelsey, Jennings, Harroun and Siddall. The Secretary read a provision in the constitution of the Society, showing that the adoption of the resolution required a two-thirds vote of all the members present. The question being on the adoption of the resolution a rising vote was held, twenty-one members voting in the affirmative and none in the negative.

On motion, the meeting was adjourned to meet at 9 o'clock A. M., for clinics.

2D DAY, AFTERNOON SESSION.

The meeting reassembled at 2 o'clock P. M.

On motion of Dr. C. R. Taft, W. T. Wallace, a delegate from the Pennsylvania State Dental Society, being present was invited to participate in the proceedings of the Society.

On motion, it was resolved that Dr. D. C. Hawxhurst, ex-President of the Michigan Central Dental Association and Dr. W. K. Jones, delegate from the West Va. Dental Association be elected honorary members of this Society, and invited to

participate in the discussions and bear to their respective societies the greetings of this body.

Dr. Porter offered the following :

Resolved, That five hundred copies of the Constitution, By-laws and Code of Ethics of this Society be published and distributed among the members of the Society, and that the Secretary furnish a copy to all persons joining the Society, and that all persons violating the Code of Ethics shall be expelled, and his name published in the DENTAL REGISTER and his county paper.

Dr. R. G. Warner moved to amend by making the number of copies one thousand instead of five hundred. The resolution as amended was adopted.

Dr. Porter also offered the following :

Resolved, that there be no clinics in operative dentistry at the future meetings of this Society. Adopted.

Dr. Porter from the Committee on Membership reported, recommending the following persons for membership in the Society : W. E. Jaques, Burton ; A. H. Johnson, Massillon ; Joseph Craig, Canton ; M. L. Wright, Chardon ; S. Vail, New Philadelphia ; S. W. Peasley, Norwalk ; C. F. Stroud, Sandusky ; H. H. Newton, Cleveland ; L. G. Dills, Greenfield ; Samuel Wagner, Gallion ; F. O. Jacobs, Coshocton ; L. D. Converse, Urbana ; D. Jones, North Fairfield ; J. E. Phelps, Chagrin Falls ; J. A. Umstot, Cadiz ; J. N. Custar, Westerville ; A. E. Griffin, Bellefontaine ; and H. Clark, Circleville.

On motion, the report was accepted and the candidates ballotted for.

On motion, the Secretary was instructed to cast an affirmative ballot for the candidates, as each one was proposed.

On motion, the names of Dr. L. G. Dills, of Greenfield, and L. D. Converse, of Urbana, when called, were passed over for further investigation.

Dr. C. R. Taft, Chairman of the Committee appointed to revise the roll of membership, made report, stating that the Committee proceeded under a resolution heretofore adopted, which provided that a member who had failed to attend the

meetings or to pay his dues for two years should be dropped, and could not be reinstated except upon the payment of all back dues. Dr. Taft here read a list of the names of the active members of the Society, as revised, showing one hundred working members.

Dr. Rosson stated that the state law, regulating the practice of dentistry, would go into effect on the first day of January, and he desired to know how the members felt in regard to it, whether they intended to enforce the law. Dr. H. A. Smith followed in some remarks, showing the determination on the part of members of the profession to enforce the law, and instanced the case being prosecuted by Dr. C. H. James, in Cincinnati.

Dr. Harroun moved that the Society set aside three hundred dollars to be used, if necessary, in assisting in the prosecution begun by Dr. James.

Dr. Harroun withdrew his motion for the introduction of a resolution by Dr. Porter, as follows :

Resolved, That the chair appoint a committee of three, whose duty it shall be to select one or more dentists in each county, as far as practicable, to report the names of dentists who may be practicing in violation of the law regulating the practice of dentistry, after the first day of January, 1873, in the counties in which they reside, also in adjoining counties, and see that the law be enforced.

The resolution was discussed by Drs. H. A. Smith, Harroun, Herriot, J. F. Siddal, J. H. Siddal, Porter and J. Taft.

Dr. J. Taft suggested that the resolution be modified, so that it might seem somewhat smoother in its phraseology.

After further remarks by Drs. J. Taft, H. A. Smith and L. Buffett, Dr. Smith moved to amend the resolution by striking out the words "and see that the law be enforced." He proposed that instead of this the names and professional standing of all such persons be reported at the next meeting. The motion prevailed.

Dr. J. H. Warner moved a reconsideration of the vote. A division was called for, and twenty-two members, a majority of those present, voted in favor of a reconsideration.

After other motions and suggestions, the whole question, on motion of Dr. J. Taft, was referred to a committee consisting of Drs. Porter, Rehwinkle and Kelsey, to report at the earliest convenience.

Dr. Harroun then renewed his motion, which was adopted. Dr. H. R. Smith, Dr. Wheeler and Dr. Harroun were appointed a committee to have the management of the fund of three hundred dollars. Dr. L. Buffett suggested it would be well to allow Dr. Smith to draw that amount if needed.

Dr. Harroun thought the suggestion a good one, and moved that Dr. Smith be empowered to draw on the fund of three hundred dollars to be set aside to defend the case referred to in Cincinnati. Motion adopted.

Dr. Rehwinkle presented the report of the Committee on the Rubber Question, and made some remarks in connection therewith.

On motion of Dr. Herriot, the report was accepted and the committee continued.

Dr. Herriot moved that the Committee be granted discretionary power, in regard to the amount of money to be expended in this matter to the extent of five hundred dollars. The motion was carried.

Dr. Beauman moved that the Society extend its thanks and gratitude to Dr. S. S. White, for the action he has taken in regard to the Rubber Question, and that it signify its readiness to do its part financially in the matter. Motion carried.

Dr. H. A. Smith moved that a committee of three, consisting of Drs. Herriot, Warner and Beauman, be appointed to obtain conditional subscriptions for this purpose, and convey to Dr. White the resolution of Dr. Beauman. Carried.

Dr. Porter, from the Committee appointed in reference to the dues owed by members offered the following :

Resolved, That all members of this Society, who shall neglect to pay their annual dues for two consecutive years, shall not be permitted to resume their membership without first paying all back dues.

The resolution was adopted.

On motion of Dr. Rosson, the discussion of the las

"The best means of preserving the eyesight of the dental practitioner," was resumed and farther participated in by Drs. J. Taft, J. H. Warner and Rehwinkle, when on motion the Society adjourned until 7 o'clock P. M.

2D DAY, EVENING SESSION.

The Society re-assembled at 7 P. M., The first half hour being devoted to a quiz conducted by Dr. Harroun, subject.—Proper Diagnosis of Diseases of the Mouth.

Dr. Herriot, from the Committee to which was entrusted the preparation of Resolutions, expressive of the feelings of the Society towards Dr. S. S. White, for his labors in the interests of the profession against the Goodyear Dental Vulcanite Company, reported the following :

Resolved, That we recognize the integrity of purpose and efficiency of service of Dr. S. S. White against the Goodyear Dental Vulcanite Company, and we most heartily thank him, for the conclusive evidence he has given us of the fraud practiced upon the Supreme Court of the United States by that Company, detrimental to the interests of the dentists in the Gardner Case ; and that we also tender to Dr. White, material aid in that suit, the funds to be placed at the disposal of the Dental Vulcanite Committee, if in their judgment they may be needed. The report was accepted. Dr. Horton moved that the resolutions be adopted, and that a copy signed by the officers of the Society be sent to Dr. White : which was agreed to, and the resolution adopted.

Dr. Herriot made a further report from the Committee, recommending the assessment of ten dollars on each member of the Society, if in the opinion of the Committee on the Rubber Question it be necessary to be used to defray expenses in fighting that Company. The recommendation was discussed by Drs. Rosson, Beauman, Harroun, Sidall and Horton and was unanimously adopted.

Dr. Kelsey offered the following :

Resolved, That this Society recommend to the licensees of the Goodyear Dental Vulcanite Company that they transact no further business with that Company until the question now before the United States Court, in regard to the Cumming's

patent is finally settled. A division was called for and the resolution was adopted.

Dr. J. Taft moved that the law regulating the practice of Dentistry in the State of Ohio, be published in connection with the Code of Ethics. Motion agreed to.

The Committee appointed to report on the action to be taken by the dentists in reference to the Dental Law, reported as follows :

Resolved, That the Chair appoint a Judiciary Committee, whose duty it shall be to act upon all violations of the Code of Ethics, and to confer with a Committee of one or more dentists in each county, in regard to violations of the law regulating the practice of dentistry, and advise with the dentist or dentists in the county, to determine whether an active or passive course be pursued in relation to such violations of the law, after having learned through the County Committee the extent and nature of such violation.

The report was accepted and adopted.

Dr. Hawxhurst, ex-President of the Michigan Central Dental Society addressed the meeting upon "The effects of fetid breath upon the constitution." Dr. Kelsey moved that a vote of thanks be returned to Dr. Hawxhurst for his address, and that a copy of the paper be requested for publication. The motion was agreed to. Dr. Taft moved that the paper be discussed at the next session, which was agreed to.

The Committee on Membership recommended the following named persons for membership in the Society : P. A. Palmer, Marietta ; E. B. Yager, Orville ; F. H. Houghton, Columbus ; M. Chapin, Akron ; W. L. Hosie, Newton Falls ; A. F. Emminger, Columbus ; D. G. French, Xenia ; G. D. Bellows, Medina ; C. H. Bowles, Granville.

On motion, the Society then adjourned until 9:30 A. M.

THIRD DAY, MORNING SESSION.

The Society reassembled at 9:30 A. M. The minutes were read and approved.

The President appointed as the Judiciary Committee, Drs. Herriot, Harroun and Porter.

Dr. Rawson moved that Dr. L. D. Converse, of Urbana, be

admitted as a member of this Society, which motion was agreed to.

The Auditing Committee was then appointed.

Dr. L. Buffett moved that the name of Dr. J. N. Custar be passed upon ; a ballot being had, he was declared duly elected.

The Committee on Membership reported the following additional names : W. T. Wallace, Kingsville ; H. L. Crider, Lancaster ; J. C. Johnson, Granville.

Dr. C. R. Taft stated that the minutes showed that some persons had been elected members of this Society, who had neither signed the constitution, nor paid their initiation fee, and asked for instructions as to whether their names should be placed on the roll of membership.

Dr. Rosson moved that the names of all such persons be dropped from the roll as if no action had been taken in their cases, which motion was agreed to.

Dr. Herriot moved that Dr. H. A. Smith be re-elected a member of the State Board of Examiners, which motion was agreed to.

Dr. L. Buffett moved that the President appoint a committee of two, to appoint delegates to the American Dental Association, which was agreed to.

The President appointed as said committee, Drs. Buffett and Warner.

On motion of Dr. Rosson, the Society resolved itself into committee of the whole for the purpose of nominating officers for the ensuing year, Dr. Jennings in the chair. The officers to be elected being President, two Vice-Presidents, Recording Secretary, Corresponding Secretary and Treasurer. The following nominations were made : Dr. Jennings nominated Dr. L. Buffett, of Cleveland, for President ; Dr. J. H. Warner nominated Dr. B. F. Rosson, of Troy, for First Vice-President ; Dr. Harroun nominated Dr. W. M. Herriot for Second Vice-President ; Dr. Rosson nominated Dr. C. R. Taft for Recording Secretary.

Dr. J. H. Warner nominated Dr. D. R. Jennings, for President ; Dr. Herriot nominated Dr. Harroun for First Vice President ; also Dr. Hall Second Vice President ; Dr. Rosson nominated Dr. I. Williams for Treasurer ; Dr. Porter was

nominated for Recording Secretary ; Dr. Herriot nominated Dr. C. R. Butler for Corresponding Secretary.

Dr. Rosson moved that the committee rise and proceed to the election of officers. Carried.

The first ballot for President resulted in no choice. Dr. Jennings then withdrew his name. Upon the second ballot, Dr. Buffett was declared duly elected President. For First Vice-President, Dr. B. F. Rosson was elected; for Second Vice-President Dr. Herriot was elected ; for Recording Secretary, Dr. C. R. Taft was elected ; for Corresponding Secretary, Dr C. R. Butler was elected ; for Treasurer, Dr. I. Williams, being the only candidate nominated, the Secretary was instructed to cast an affirmative ballot for him for that office and he was declared elected. The President appointed Drs. Harroun and Beaman to conduct the President elect to the chair. Upon taking the chair he was greeted with applause and made a few appropriate remarks.

Dr. I. Williams returned thanks to the members for their kindness and courtesy to him, as acting President during the sessions of the Society.

On motion of Dr. Rosson, a vote of thanks was tendered Dr. I. Williams, ex-Vice-President, who had presided during the session, for the impartial and able manner in which he had presided over the deliberations of the body during the three days just past, which was unanimously agreed to.

The paper of Dr. Hawxhurst was then taken up and the discussion upon it opened by Dr. Rosson, and further participated in by Drs. Harroun, Herriot, Kelsey, Porter, J. Taft, H. A. Smith, Hawxhurst and Rehwinkle.

A paper by Dr. Watt on Vital Force, was read by Dr. J. Taft.

On motion, a vote of thanks was tendered Dr. Watt for his paper. The paper was discussed by Drs. J. Taft and Hawxhurst.

The President appointed the following standing committees for the ensuing year :

On motion of Dr. Taft, a paper of Dr. Butler on "Dental Law" was referred to the Publication Committee. A paper of Dr. Way, of Sandusky, was presented by Dr. J. Taft.

On motion of Dr. Herriot, this paper was referred to the Publication Committee for publication, if they deemed best.

The Committee on Membership reported the name of Dr. W. F. Harbaugh, of Piqua, who was elected a member of the Society.

The Treasurer made his report showing a balance on hand of \$241.17.

Dr. Taft moved that a committee of three be appointed to ascertain the number and locality of dentists in the State of Ohio, which was agreed to.

The chair appointed as that committee Drs. Will Taft, M. DeCamp and C. Palmer.

Dr. Herriot moved that the Publication Committee be instructed to publish the Constitution, By-laws, Code of Ethics and dental law in such form as they may think best, and send to all the dentists in the State.

Dr. Porter moved that a committee of three be appointed to draft a suitable amendment to the statute exempting dentists from jury duty, the same as physicians and ministers, which was agreed to.

The President appointed J. Taft, H. A. Smith and M. DeCamp as such committee.

On motion, the Society adjourned until 2 o'clock P. M.

THIRD DAY, AFTERNOON SESSION.

The Society reassembled at 2 P. M., Dr. L. Buffett in the chair. The President named as the Judiciary Committee, Drs. W. M. Herriot, J. M. Porter and C. H. Harroun.

The Committee to select delegates to the American Dental Association reported through Dr. R. G. Warrer the following names: W. P. Horton, A. A. Blount, M. DeCamp, C. H. Harroun, C. B. Knowlton, M. C. Sine, I. Williams, L. D. Converse, A. E. Griffin, W. P. Hall, W. R. Lilly, J. M. Porter, J. H. Warner, H. W. Howe, F. H. Rehwinkel, A. T. Price, A. A. Newton and W. F. Harbaugh.

Dr. Porter moved that in case the suit pending in Cincinnati be decided in favor of the profession the result be published in the DENTAL REGISTER. Carried.

Dr. Buffett, Treasurer for the previous year, made his report.

McDonald being absent, Dr. S. B. Brown, of Fort Wayne, was selected as Secretary, *pro tem*.

On motion, the reading of the minutes of last meeting was dispensed with ; President Hunt appointed the following gentlemen as censors : Drs. Merrit Wells, W. L. Heiskell and W. E. Driscoll.

The report of the Committee on Dental Law was received, and the Committee discharged.

The Board of Censors reported the following gentlemen as suitable candidates for membership in the State Association.

Dr. V. D. Jackson, Jeffersonville ;

“ A. Lanning, Salem ;

“ W. C. Knapp, Fort Wayne ;

“ P. T. Green, New Albany ;

“ J. C. Henry “

All of whom were elected to membership by separate ballots.

A letter was read by Dr. John F. Johnston, from Prof. Joseph Richardson, expressing his regret in being detained by sickness in his family. The letter was accepted, and the Secretary instructed to forward a letter of sympathy to him.

The Association then proceeded to the election of officers, with the following result:

President, Dr. Merrit Wells, of Indianapolis ;

1st Vice President, Dr. Seneca B. Brown, Fort Wayne ;

2nd “ “ Dr. W. E. Driscoll, Bedford ;

Secretary, B. P. McDonald, Goshen ;

Treasurer, John F. Johnston, Indianapolis ;

President Hunt appointed Drs. Johnston and Heiskell to escort the newly elected President to the chair, who made a brief speech in acknowledgement of the honor conferred.

President Wells appointed the following members to act as Executive Committee for the ensuing year :

Dr. P. G. Hunt, of Indianapolis ;

Dr. Joseph Richardson, Terre Haute ;

Dr. I. Knapp, Fort Wayne ;

The following resolution was presented and unanimously adopted :

Resolved, That the Indiana State Dental Association tender

its grateful acknowledgment to Dr. S. S. White, for his individual effort to have righted what they conceive to be a great wrong, in the matter of the Gardner Appeal Case.

At this juncture a committee from the Kentucky State Dental Association was received, from whom an invitation was accepted to adjourn, to meet with the Kentucky Association, on Wednesday, and continue with it during the session of the Association.

The following members of the profession from Louisville were elected honorary members : Drs. W. G. Rediman, Chas. Dunn, W. M. Rogers, J. B. McCarthy, L. W. Weld and J. W. Grant.

On motion, the Association adjourned to meet in Louisville, on Wednesday morning at nine o'clock.

MORNING SESSION, SECOND DAY.

Pursuant to adjournment the Association met in the Hall of the School Board, in the city of Louisville, at half-past 10 o'clock, A. M.

Whereupon the two Associations went into joint session.

The Indiana State Dental Association receiving an address of welcome from Dr. Goddard, President of the Kentucky State Dental Association, exhibiting a true fraternal spirit, which cannot but advance the best interests of both Associations for all time to come, and with clasped hands across the river, march forward to newer and grander achievements.

In response, Dr. Merrit Wells returned thanks in the name of the members of the Indiana State Dental Association he represented, to the Kentucky Association for the kindness and fraternal feeling which had been shown toward them, which they would not fail to reciprocate when the occasion offered. They had come to seek knowledge and light with their Kentucky brethren; although separated by geographical lines, they were united in bonds of fraternity and affection, and hoped they should ever continue to be so.

As the Secretary of the Kentucky State Dental Association has reported the action of the joint session upon the various subjects discussed, and the same published, I will not occupy your valuable space by repetition.

The Indiana State Dental Association adjourned to meet at Indianapolis on the first Tuesday in June, 1874.

B. P. McDonald, *Secretary*

NEW ORLEANS DENTAL ASSOCIATION.

NEW ORLEANS, Oct. 10, 1873.

DR. TAFT:

Dear Sir:—On the third day of July, 1873, at a meeting of the New Orleans Dental Association, the following preamble and resolutions were passed.

Illness and absence of the Recording Secretary, Prof. A. F. McLaw, M. D., D. D. S., prevented him from forwarding you a copy, which duty I now perform

Yours truly,

JAS. S. KNAPP,

* Member of the N. O. Dental Association, acting in place of Recording Secretary.

"WHEREAS, Divine Providence in his all-wise dispensation has seen fit to allow the laws of nature to be exercised in removing from life's busy scenes and cares the very estimable gentleman, Cyrus S. Knapp, D. D. S., at his residence, near Jackson, state of Mississippi, long before having attained that full measure of earthly existence which has been allotted to man; and

WHEREAS, in his demise, society has been deprived of a useful, worthy member, his wife of a loving, devoted husband, his children and brothers of an affectionate father and brother, whilst his numerous friends and relatives have sustained the irreparable loss of a warm and genial friend, the dental profession of one of its highest ornaments, and this association one of its corresponding members; therefore be it

Resolved, that we tender to his family and relatives our heartfelt sympathy and condolence for their sad bereavement; and that this preamble and resolutions be spread upon the minutes of this meeting; and that a copy of the same be forwarded to his grief-stricken family; and that copies be likewise furnished to the dental journals for publication.

BROOKLYN DENTAL SOCIETY.

The Brooklyn Dental Society convened for its sixth annual session, Monday evening, Oct. 6, 1873. President Dr. Wm. Jarvie, Jr. in the chair.

The following members were elected officers for the ensuing year.

President, Dr. W. T. Shannon ;
Vice-President, Dr. L. E. Brockway ;
Recording Secretary, Dr. C. P. Crandell ;
Corresponding Secretary, Dr. A. N. Chapman ;
Treasurer, Dr. F. W. Dolbare ;
Librarian, Dr. C. H. Biddle.

The Society is composed of earnest men, thoroughly interested in everything tending to elevate the standard of professional excellence, and enlarge their sphere of usefulness, and a truly noble work is being accomplished as the result of associative effort.

C. P. CRANDELL,
Rec. Secretary.

Miscellaneous.

THE BIG TELESCOPE.

We always feel repaid for a visit of half an hour to the workshop of our friend, Alvan Clark ; for he is a man thoroughly in love with his work, and ennobles the work while he is ennobled by it.

The large telescope for the Naval Observatory is rapidly approaching completion, and it is hoped that it will be in place by the end of September. The tube is now being manufactured. This is of sheet steel, and built up in such a way that its largest diameter is at the point of suspension, each succeeding segment towards either end fitting into the one preceding it ; so that the tube will, when completed, be cigar-shaped. Work on the large instrument has been delayed somewhat, from the fact that work on the small transit instruments for observing the transit of Venus admits of no delay. The Messrs. Clark are constructing ten of these instruments ; eight of them will be accompanied by chronographs, which they will also build. These telescopes are all adjustable for polar distance ; since, being intended for use in various latitudes, they cannot be adjusted permanently, as in the case when the exact position of

the observatory is known. They are run by clock movements, which are reversible, thus fitting them for north or south latitude.

Mr. Clark is also at work on the glass stolen about a year ago from the Alleghany Observatory, correcting its figure and repolishing it, as it was somewhat damaged while in possession of the thieves, who buried it in the ground. He has just sold the twelve-inch glass which he has had on hand for a year or two past. This is to go, we believe, to the Imperial Observatory at Vienna. The glass for the second large telescope is not yet made, but they are expecting word that it is ready for their inspection. S.

PHENOMENA OF THE BRAIN.

One of the most inconceivable things in the nature of the brain is that although the organ of sensation, it should itself be insensible. To cut the brain gives no pain; yet in the brain resides the power of feeling pain in any part of the body. If the nerve which leads to it from the injured part be divided, we become instantly unconscious of suffering. It is only by communication with the brain that any kind of sensation is produced; yet the organ is itself insensible. But there is a circumstance more wonderful still. A certain portion of the brain itself may be removed without destroying life. The animal lives and performs all those functions which are necessary to simple vitality, but it has no longer a mind. It can not think or feel. It requires that the food should be pushed into its stomach; once there, it is digested, and the animal will even thrive and grow fat. We infer, therefore, that a part of the brain is simply intended for the exercise of the intellectual faculties, whether of the lower degree, called instinct, or of that exalted kind bestowed on man, called reason.—X

THE ADMINISTRATION OF PERCHLORIDE OF IRON.

Dr. H. L. Snow remarks that delicate patients very frequently object to the astringent metallic taste long remaining in the mouth after the administration of tincture of perchloride of iron, the flavor of which is but very imperfectly disguised by the syrup or spiritus chloroformi with which it is usually ordered. It may not, perhaps, be too insignificant a matter for mention, that the substitution of a small quantity of glycerine (about half an ounce to an eight-ounce mixture) will altogether obviate this inconvenience.—*Med. & Sur. Rep.*

Editorial.

A HISTORY OF AMERICAN DENTISTRY AND DENTAL SURGERY.

A work with the above title is being prepared by the Atlantic Publishing Co., of New York, with the co-operation and assistance of several well-known gentlemen of the profession. It is proposed to embrace careful resume's of the early history of the profession, and its progress to the present time, together with biographical sketches of the representative American dentists.

The desirability and value of such a work, no one will question. The only question that has been asked is, "Will it be a true and faithful work?" In answer to this and similar questions, we will reply that those who have an opportunity to know, regard the publishers as perfectly reliable and disposed to do the best thing for the profession. Similar works prepared by them give promise that this will answer the highest expectations. In addition to this, there is an advisory committee of prominent dentists who are interested in having the work issued in the most correct manner. We doubt not the work will be in every respect acceptable to the profession.

No systematic work of the kind has hitherto been published or prepared, and the call for it is very urgent; time is passing on, and much that is valuable will soon have passed away beyond reach, unless some effort is made for its preservation. Biographies are, perhaps, of less importance than other records. The history of the growth, development and progress of the profession, and the instrumentalities by which these have been obtained, should certainly be written, and put in some tangible and permanent form, that those who come after may know the way by which the present position has been obtained.

We bespeak for this enterprise the hearty co-operation and support of the entire profession of this country.

Perhaps but few biographies will be embraced in this volume; it will be largely occupied by historical matter: but there will be, if proper encouragement is given, future volumes issued. The profession can rely upon this work being one of real merit and value.

MISSISSIPPI VALLEY DENTAL SOCIETY.

The publication of the proceedings of the last annual meeting of this society, was delayed till the issue of the Oct. No. of the REGISTER. The copy was furnished in proper time, but through changing printers it was lost, and another copy had to be made.

It will be seen by reference to these minutes, that this society has lost none of its vigor through age, but that it seems constantly to be developing and growing. The following was offered and passed unanimously: "*Resolved*, That the members of this Society most earnestly, but respectfully remonstrate against the improper use of the prefix 'Doctor' by dentists, and pledge themselves not to use any title not lawfully belonging to them." This is in the right direction. Every society ought to encourage and foster that which is right, and discourage the wrong in professional matters; so improper has it been deemed for any one to assume the title of Doctor or D. D. S., who has not had the degree conferred upon him by competent authority, that laws in some states have been passed, making it a misdemeanor to do so. Such laws, as well as the above resolution, are based upon the supposition that such titles mean something; that the possessors have accomplished something that others have not; and such title is given as indicating that fact: and if any one may assume it at pleasure, then it ceases to be distinctive or to indicate anything more than mere assumption.

The responsibility of this matter is with the profession, for its members are accustomed to address each other as Doctor,

without reference to right. Let such a course be pursued in this matter by the profession, as will place every one in his true position, and not give to one that which does not belong to him, nor degrade, nor detract from another that which is his distinctive right, and is a thing of value to him.

The next meeting of this Society will be about the first of March, in the city of St Louis, Mo., when we hope there will be a large assemblage of the profession.

MAD RIVER DENTAL SOCIETY.

The semi-annual meeting of this Society was held in Dayton, on the first Tuesday of October. The attendance was good, and there were very interesting sessions held. There were several new topics under consideration that elicited free discussion, and many new thoughts were brought out.

The second subject, viz : "What are the most urgent demands of the dental profession in its present position ?" Under this head was discussed the importance of office pupilage for students. Its great importance was at once conceded by all, and it was about as readily conceded that there is great failure in this respect by nearly all in the profession who receive students into their offices. The student is permitted to enter the office and learn what he may by limited observation, and by a rambling course of reading, and oftentimes through works not at all adapted to his best interests, the preceptor neither directing nor taking oversight of the study. Usually the opportunity of a student for learning by observation is very limited, except in the laboratory, and even there it is too often confined to making sets of teeth on rubber. The preceptor is very largely responsible for the views the student may entertain in reference to the profession in all particulars. The professional status of the preceptor will usually be perceptible in the student. We hope soon to have the proceedings for publication, and will not here further anticipate their contents. The Mad River is one of the most active of our local societies ; doing its work quietly, but effectively.

THE EIGHTH ANNUAL MEETING OF THE OHIO STATE DENTAL SOCIETY

Will be held in the Council Chamber in Columbus, commencing on Wednesday, December 3, 1873, at 10 o'clock A. M.

OFFICERS.

<i>President,</i>	L. Buffett, Cleveland ;
<i>Vice-President,</i>	W. M. Herriot ;
<i>Recording Sec'y,</i>	C. R. Taft, Mansfield ;
<i>Cor. Sec'y,</i>	C. R. Butler, Cleveland ;
<i>Treasurer,</i>	I. Williams, New Philadelphia ;
<i>Executive Committee,</i>	H. A. Smith, A. F. Emminger, D. R. Jennings.

ORDER OF BUSINESS.

1. Calling of the roll.
2. Reading of the minutes.
3. Reports of standing committees.
4. Reports of special committees.
5. Election of members and payment of dues.

SUBJECTS FOR ESSAYS AND DISCUSSIONS.

1. What are the benefits to be derived from a proper care of the deciduous teeth ? Description of methods of treatment.
2. How much is the success of filling teeth due to the mere manipulation ?
3. Observations on the methods of operating, and materials used in filling teeth.
4. Why has not dentistry received the general recognition as a specialty of medicine that it is justly entitled to ?
5. Dental legislation : its present status in the State of Ohio. Is a modification in any respect desirable ?
6. Conservative treatment of exposed or diseased pulps. What are the best materials for filling roots of teeth ?
7. Irregularities in position of the permanent teeth : their cause and mode of treatment.
8. Artificial dentures. What are the principles to be observed in their construction ?
9. Does the administration of the lime phosphates aid in the development of good teeth ?

The Executive Committee would respectfully urge the attendance of members upon this session of our State Society. A cordial invitation is also extended to dentists not members, to attend this meeting.

DIED

Sept. 23, 1873, at her residence, Belmont Place, near Newport, Ky., Mrs. Belle P. Taylor, wife of Dr. James Taylor, in the 45th year of her age.

The deceased was married Feb. 29, 1860, to Dr. James Taylor, who has been a prominent member of the dental profession for many years.

Mrs. Taylor was a woman of rare accomplishments. Her mind was cultivated. Her literary tastes were refined. She read the works of the best authors, and possessed varied stores of knowledge. These, with her genial disposition and cultivated manners, made her the charm of the social circle and the light and joy of her home.

Those who knew her best saw her Christian character ripen and her trust increase from year to year, and during the last year or two she seems to have searched her heart and fixed her faith on Christ more firmly than ever.

In her last sickness her faith shone out triumphantly. She was calm and serene. Her mind was full of peace. Her heart was stayed on God. She wished only to do and suffer the will of God, whether by life or by death.

The star that sets
Beyond the western wave is not extinct;
It brightens in another hemisphere,
And gilds another evening with its rays.

At his residence, in Chillicothe, Ohio, on the morning of October 29, at 20 minutes past 12 o'clock, Hervey, eldest son of Dr. and Mrs. H. Scott, aged 30 years and 6 months.

THE
DENTAL REGISTER.

VOL. XXVII.]

DECEMBER, 1873.

[No. 12.]

ARTIFICIAL DENTISTRY.

BY H. L. SAGE, D. D. S.

*Read before the Connecticut State Dental Association,
October 14th, 1873.*

The practice of artificial, or mechanical dentistry, as it is termed, is not now-a-days so intimately blended with that of operative, business-wise, as in the past.

That is, the expert operator will usually be found to confine his attention and best efforts more particularly to the preservation of the natural teeth, and the treatment of diseased conditions of the oral cavity, with a certain degree of pride in this direction which he does not entertain in regard to the practice of the merely artificial branch, owing in part to the fact that the latter has, in a great measure, fallen into the hands of the so-called "cheap dentist;" a certain tendency or

proclivity of human nature so prevalent with the masses, to obtain the lowest rates, being taken advantage of by many practitioners, to the exclusion of all that is consistent with the true elevation of this branch of dentistry ; so that the most conscientious and skillful in the profession are obliged to secure a higher rate of compensation than is demanded by a less talented, or, at least, a less aspiring and pains-taking class, for products of less practical and intrinsic value than are obtained by the use of more expensive materials, and the employment of more time, taste and ability : so that a limited practice, so far as mechanical dentistry is concerned, will usually be retained by the specially careful and expert operator, *and* mechanical dentist, and for the reason, also, that many, whose necessities call for dental substitutes, not being able to discriminate between the highest creations of artistic taste and the crude productions, or unwilling to bear the greater expense of procuring the former, are satisfied with the inferior article ; and it does not help the matter to affirm that the fault lies with the profession.

While it is true, that the cheap specialist will usually be found to be quite deficient in the essentials that constitute a finished operator upon the natural organs, many of the latter class are possessed of qualifications which enable them to practice both branches, with credit to themselves, and honor to the profession.

Modern artificial dentistry consists, with the majority of dentists, in the construction of plates from red rubber principally, and from metal secondarily—or with many, from the former exclusively—and the mounting of porcelain teeth thereon, in the shortest, cheapest and most expeditious manner possible, without much regard to the display, in any essential degree, of artistic taste.

But the Ceramic Art, as developed in the manufacture of porcelain teeth, has come to be so nearly separate and distinct from that of mechanical dentistry proper as to rank as an entirely different, and, as now carried on, *higher* branch of the business, in which more capital, skill and taste, have been, and are being displayed ; so that while one branch appears to

retrograding, the other is steadily advancing in excellence, and towards perfection, though there are yet higher planes to be reached.

That they are separate is well, perhaps better than if it were otherwise ; but it is evident that the two should keep pace with each other, in order to develop the "perfect whole," or, in other words, the productions of the skilled manufacturer of teeth, be they ever so faultless in everything that pertains to natural appearance, durability and practical value, must be appropriately selected, adapted and mounted, with the idea of general fitness fully carried out,—with an almost imperceptible blending of nature and art, would we secure the full benefits of the products or results of the two branches of artificial dentistry. For, be the porcelain moulded into faultless forms, shaded with tints true to nature, and adapted to all the requirements of taste, the desired effect may be lost, or productive even of an *appalling hideousness* of expression, by a lack of care or ability on the part of the dentist, or by the mere *mechanical* manifestations of a crude, uncultured taste.

Time was, when his duties were more complicated and varied than at present ; when a higher order of talent was required than is now *absolutely* necessary, in order to conduct a practice ; when it was essential to be at once a manufacturer of teeth and a good plate-worker—plate-worker being a term applied to one who was competent to smelt, refine and convert into plates, the precious metals ; strike up, fit and adapt them to the mouths of patients ; grind, arrange and attach thereto the teeth ; and finish in a manner that was charming to behold.

Then, too, block carving was not a rare accomplishment. When blocks were not carved to suit a particular case, single teeth were employed, and the mechanically stiff and artificial appearance was not nearly so marked as it has been since the introduction of rubber, and, with its employment, the precisely-arranged and rigid-looking moulded blocks, with the preferences which obtain with many rubber workers and their patients, for snow-white teeth, carried out to the letter ; those which can be the most easily arranged being selected,

while *shade*, style and general adaptation or fitness are ignored.

While Art and Mechanism were in the olden time combined, Mechanism alone is now too often the sole presiding Genius of the laboratory ; *i. e.* where the *base* rubber base is alone or chiefly employed, and then Mechanism is too apt to be of a very low grade as well, while the pure, healthful, life-like and beautiful continuous gum work scarcely, or only in exceptionable cases, finds a place in the list, but with which no other style of work is at all comparable, or has been found to hold so high a place in the niche of dental art and mechanism.

"When'er we take our walks abroad," our observing eyes will detect numerous specimens of inferior and unnatural looking artificial dentures ; or go into any company of matrons where "false sets" do most abound, and even the eye of a novice may distinguish the artificial character of that portion of the *smile* which is dependent upon porcelain for a *finish*, and which is so apt to lack even an approximation to that beauty of expression which Nature's touch imparts.

Exceptional cases there are, let us state for the credit of our profession—but that the art occupies a lower place than formerly, cannot be denied ; and why, can be answered by inference, if the foregoing statements are in anywise sustained by facts.

We may infer, as before intimated, that one of the causes of this is the cheaper and *baser* character of the materials employed as bases for artificial teeth, than which none has been so largely used, or is in itself so vile a compound *when* used for this purpose, as the material called "red rubber." If it does not *morally* debase the dentist that inserts teeth upon it, it *physically* debases the one who wears it, oftentimes at least, the proof of which does not seem to be lacking.

Moreover, mounting a set of teeth upon rubber is so easily accomplished, after a sort, any how, or in tolerable style, that the introduction of the compound has been the occasion for the advent of a large number of ready-made, "first-class" dentists, whose wonderful genius has excited the admiration of a large and constantly increasing number of toothless and would-be toothless individuals ; for he who can insert artificial teeth that

are better than natural ones ever were or can be, that have advantages that natural ones never did or can possess, and at such low prices too, is certainly a genius, and a man who "goes about doing good," in the highest sense of the term. But so long as the poison incorporated in the material is slow and insidious, and its work not always apparent to the senses, and people rest in fancied security, does it matter *much*? For is it not better to die and not know it, than to live and be aware of it? "Where ignorance is bliss 'tis folly to be wise."

As a final answer to the question, what has degraded the practice of artificial dentistry, this seems an appropriate reply: the introduction of cheap and deleterious materials, requiring little labor and skill in their employment—inducing the advent of many inferior men into the profession—lowering the standard of professional excellence—debasement of the public mind and driving out much of the best talent into the more congenial field of operative dentistry, to the entire exclusion of the mechanical branch from their practice. Aside from this, the natural organs respond to abuse and bad practice, while the effects of good treatment also, they are not slow to indicate; and thus the difference between the two modes of operating is apparent to the *senses*, if not to the intelligence of the public, —while it is not easy, or quite so important, to distinguish between the crude and the finer productions of mechanical dentistry, for the reason that the former constitute by far the larger portion of those subjected to public scrutiny; and hence a certain style becomes familiar, and when that style preponderates the eye becomes educated or accustomed thereto, and finally comes to tolerate it, so that what was once a painful apparition, becomes a "thing of beauty." "We first endure, then pity, then embrace."

The question, what can be done to elevate the practice of artificial dentistry, has been partially and inferentially answered in the foregoing remarks. Without impugning or calling in question the motives of a worthy and conscientious class, who may honestly differ in regard to the employment of a certain base for artificial teeth, or its local or constitutional effects upon the wearer, these suggestions in relation thereto, have been offered.

There are few, if any, harmless substances in use as bases, that can be afforded as cheaply as rubber, which, notwithstanding its advantages, is not, in all cases at least, innocuous and healthful. If the last objection should not banish it entirely from the list of bases, it should lead to greater discrimination in its employment; and as it is not in all cases easy to determine, without a trial, who may be injured by wearing it—or even then, so insidious may be its effects—it is wise to discard its use entirely. In many cases, at least, it is certainly contra-indicated and there are substitutes without any of the objections that pertain to it, though requiring, doubtless, a higher degree of skill, and more time and labor in their manipulation; and here the tendency would be elevating. Notwithstanding, rubber is an indispensable adjunct in both branches of dentistry, for some special purposes.

But, looking at the question in another aspect, the introduction of cheap bases induces a low asking price; a low asking price presents a temptation to subordinate excellence in dental art, to inferiority in everything that constitutes taste, fitness, durability, etc., and excellence when applied in operative dentistry as well; a low asking price makes *dishonest* practitioners, by withholding one of the motives to honest endeavor, and thus it *must* be, as human nature is constituted, leaving out of view that abstract principle, that benevolence should share in the government of the matter; a low asking price enslaves the body and, where excellence should be sought, the soul; cramps the intellect and dwarfs the faculties; crushes ambition and lessens self-respect, notwithstanding it may aid in the cultivation of a slavish humility; it produces slovenly workers, who practically reverse the old adage, and do nothing “well” which is “worth doing at all;” a low asking price is coupled with the sale of inferior products relatively, whether of nature, or of so-called art; a low asking price is associated with “a competition for cheapness, and not for excellence;” a low asking price is, in fact, a sort of abject slavery.

What are the effects on the patient?

It affords an inducement to neglect the natural teeth. Many reason thus: Artificial teeth are much cheaper than natural ones, which require constant attention. One filling will some-

times cost more than a set of teeth—certainly what is necessary to be done in my mouth will more than pay for a set, a fine set, on rubber ; these never ache, are serviceable, durable, as conducive to health and comfort, and present a more *regular*, a *whiter*, and more attractive appearance, than natural teeth (the latter assertion being true in the case of many, who make the mouth a receptacle for fertilizing materials, instead of daily, habitually and thoroughly removing them, and disinfecting the oral cavity, in accordance with the laws of health, good taste and good breeding). In this respect, he continues, art is better than nature. Dead matter is better than living. Teeth are wanted for mechanical purposes only.

Why were teeth created, he asks ; attached to us like so many pegs ? It was a sad mistake.

But what would infants and children do, if dependent upon metal, rubber and porcelain ? Would not development be retarded, expression lost, voice and speech modified, the tissues of the mouth become diseased, and the performance of many physiological functions checked ? Could a child learn the use of artificial teeth ? How many times would it be necessary to replace them during minority, in order to keep pace with development or so as not to check it, as the Chinese check the growth of their pedal extremities ?

These *inquiries* should be a reflex answer to the question, why were teeth created ?

The question as to whether mechanical dentistry should be practiced as a specialty, is being rapidly solved by the logic of events. In fact, we are drifting towards a separation of the two branches of dental practice, and whatever may be our ideas concerning the matter, in this respect, it is in a fair way to regulate itself.

It would seem that the tendency would be elevating, since the practice of a specialty implies a condensation of the time, talents and energies, and the bending and subjugation of these to a single purpose, the work of a life often being freely given by the enthusiastic and earnest worker, to the unfolding and developing of certain ends, aims and objects, and the pursuit, by observation, study and experiment of all that he is

capable of bringing forth to practical use and value in his profession. But uninterrupted progress cannot always be expected : It is only when exigencies may arise to develop it. Fresh discoveries and inventions, for instance, may revolutionize science and art in certain directions, placing it on a higher plane, and thus a more scientific and reasonable practice come to be followed. Or a demand may arise for men better qualified by nature and culture for the positions they may hold, and that demand may come from the profession to which they belong ; for it is not to be expected that the public will remedy what is already within the control of the profession, or even observe failures that the latter may tolerate or look upon with composure, without any concert of action, or attempt to remedy by law or gospel the abuses that may exist.

If artificial dentistry is a mere trade, or a fine art even, it should be so known and designated, and its specific duties defined, and what may be considered requisite acquirements to honorably and successfully prosecute it. What is expected of the candidate for this branch should be determined, and diplomas or certificates furnished well-qualified specialists in the science, *if* it has any claim to *be* a science, or shall be practiced as a specialty. Then shall the two branches of dentistry work unitedly and harmoniously side by side, each advancing in excellence, because of the higher standard which shall have been set up for attainment, and the consecration and condensation of the forces of mind and matter in these directions.

The mission of operative dentistry is pre-eminently to save, and this being the object, it is making rapid progress.

The true mission of artificial dentistry is, to produce a substitute for the lost, and as nearly as possible, *reproduce*, and thus add to life its charms, by indirectly preserving health and ministering to the *comforts* of life.

Without always carrying out this idea, it has, in many instances, sacrificed valuable organs in order to satisfy the caprices of patients, or to supply less valuable substitutes, for a consideration. To sacrifice living, or dead, or partially dead teeth, for purposes of gain simply, or to sacrifice them at all, un-

less the loss shall bring therewith obviously greater benefits to the loser, which in many cases it does not, is wrong doing and tends to degrade the practice, and has proved a temptation and a snare to many who may not have considered the matter from a moral stand-point. When the principle embodied in the "golden rule" shall govern the motives and actions, the "principles and practice of dental surgery" will find their highest moral, as well as scientific, altitude, and we may reasonably expect that whatever tends to degrade will only come from ignorance, and not from bad motives, while the unceasing evolution of light will so tend to disperse the darkness, that the highest point shall have been reached consistent with our mental and physical infirmities and the lack of that full spiritual development, to which our material bodies seem to be a hindrance.

"PROFESSIONAL ETHICS."

BY WM. F. THOMPSON.

The following thoughts occur, in answer to an article I have just finished reading. I agree with your contributor ;— in Aug. No. of the REGISTER,—high-sounding titles are but empty things, unless backed by the merit that justifies their possession and *should only be conferred* as a "reward of merit." He who gathers them for speculative purposes dishonors not only himself, but that which should be a *part of himself*,—his profession—thereby losing the respect and esteem which are justly due a conscientious thinker and worker, and the confidence of his patrons, overwhelming him ultimately in *pecuniary loss* and *professional disgrace* ; but when *worthily bestowed*, in consideration of sterling traits that make the *standard social* and *professional man*, it is a *badge of honor*, and should be worn proudly, yet sacredly and in fear, lest some *unworthy act* might mar its beauty, paling its splendor, *when it should shine*

an undimmed light,—an “Eastern Star”—as an incentive to those who have not reached that *standard of acknowledged excellence*.

While I agree with your contributor in the main, and accept a part of what he says as good, wholesome advice to myself, I most emphatically disagree with him upon one point; for, unless rightly understood, it will undoubtedly mislead some who are looking for landmarks to guide them in their course. There is no danger of a student's too thoroughly educating himself before commencing the *great life-work* that is before him. Unfortunately, too many turn themselves out, *half made up*, working at a disadvantage ever after; for it is difficult to unlearn, and learn again what should have been sought for in the right spirit at first. The objectionable paragraph is this; viz.,

“The Drs., M. D. and D. D. S. upon cards and signs are but little guarantee of ability. Society has so often been cheated by them, that he who flourishes those titles most, ever making them conspicuous, is looked upon with distrust. They are no mark of brains; their profession, or rather the knowledge which their possessor is supposed to have, is highly important. They should only be regarded as an evidence that the object had been sought for—not as the end sought.”

What a fearful commentary upon our medical and dental schools! If they are no “guarantee of ability,” what have we for protection? and where does this trouble lie? for there must be some lacking thing, upon the part of teacher or pupil, to produce so disastrous a result as pictured. I admit, “society” has been often “cheated;” but should that disgrace a passport, when honorably obtained and professionally regarded?

Because a few unprincipled ones have been recreant to a *sacred trust*, does that in any way reflect upon him or them who have striven for, and with much sacrifice possessed themselves of, the coveted prize? Should we forego the honor because it makes us “conspicuous” over those who have them not?

“They are no mark of brains.” Why? If not, it reflects severely upon those who sit in judgment in high places, with

vested power to award or withhold. Mistakes are made, no doubt, but when a student manifests no pride or interest in preparing himself for a vocation that is to be his life calling, every impediment should be thrown in his way to dissuade him from proceeding farther with what will surely prove a mistaken step; while in some other pursuit, more congenial to his tastes, he might rise to an enviable position. Instead of living out his allotted time, grinding at a wheel that must inevitably prove a treadmill, let him be occupied in something, that—because he loves it—will prove a success.

All have not been able to attend a regularly chartered institution of learning; but if they are *capable* and *worthy*, this need not debar them from obtaining justice nor will justice be denied when properly petitioned for. To those commencing,—and to them I more particularly allude,—it is especially desirable that they attend some good school, thereby avoiding many vexed questions that otherwise must occur, by a self—only—examination. This chart and compass has been provided, that none may drift about, tempest-tossed, discouraged and ultimately disgusted—not unfrequently to the disgust of others. No words can I find in the English vocabulary, sufficiently strong to express my unqualified condemnation and utter reprehension of those who, having opportunities, fail to improve them. The world places a high estimate upon a well-stored mind, enriched by culture and sparkling with the ripe fruit of sagacity and golden good sense, which makes the possessor “conspicuous” among many. These become a mighty lever, and lift us above the reproach that has been too frequently cast upon us. We observe and others estimate our calling, in different localities, by the standard of the men representing it.

Again: it is alleged that degrees “should only be regarded as an evidence that the object—i. e. an education—had been sought for.” This to me is a most surprising assumption, which cannot be the offspring of intelligent reflection, since it is in direct conflict with the settled judgment of every country and of every age. When the highest learned and legally constituted body in a state confers a mark of distin-

guished excellence upon a man, the presumption is, that it has been worthily and well bestowed. Unless the honesty of the body be impeached, every man is bound to believe that the party possessing it has successfully established his claim to it, and therefore he is entitled to the confidence of the community; while the man without such established authority must prove to mankind *what he is*, before he can claim equal status. The foundation of the former is laid: that of the latter has no existence. The difference is as wide asunder as the poles.

Because we have eminent self-educated men in our profession,—men who *will have no barrier* 'twixt them and success; who persistently sought, with a never-tiring earnestness, that which they felt was indispensably necessary to fit them for the position in life they should occupy,—it is no argument that *we* should deny ourselves a shorter and an easier method of gaining the same information.

It matters not, if a man *is qualified*, from what source he became possessed of those qualifications; but it is better for the student—and for the profession at large—that he makes his *first blunders* inside the college walls. This one thing, on the part of would-be-dentists-before-their-time, has done more to destroy confidence, hold back and cripple us, than we can estimate. Until the student fully comprehends—and I know of but one way to accomplish this result; viz., legislation—that he is not permitted to manipulate his unskillful hands upon a *too ever ready* and confiding public, charging an unprofessional fee, because *not yet* professional, and fully knowing this, just so long must we suffer and wait, the misdeeds of a few reflecting upon the many. Until the same demands are made, and rigidly enforced, as with our sister profession,—medicine,—we cannot hope to have them fraternize with us. To remedy this evil, let us stamp in flaming characters upon our banner, “Excelsior,” and by our daily actions prove our interest in the work of reformation.

EDUCATION—TREATMENT OF TOOTH-PULP.

BY DR. J. S. KING.

Read before the Tennessee Dental Association.

I appear in your midst almost an entire stranger. I have been kindly received by all the profession with whom I have formed an acquaintance, since my arrival in the State of Tennessee. These kind considerations and pleasant courtesies I fully appreciate, and I trust that my future relations with my professional brethren in this section of our common country may prove to be both pleasant and profitable to all parties. Since my arrival I have been solicited to present my name for membership in this Association. It has given me pleasure to do this, and I am much gratified to learn that I am accounted worthy of a place in your midst. In order that my professional brethren of this Association may know more of me, and more clearly understand the tone of my thoughts in relation to practical dentistry; that you may know the high respect and regard I entertain for my chosen profession, and also in compliance with requests from several members of this Association, I have decided to write a few statements,—and, perhaps, a thought or two,—and venture the trespass of a few moments upon your time and patience, in the perusal thereof in your hearing. If they prove to be crude and uninteresting, please censure not those through whose solicitations this paper was prepared.

In the winter of 1847—8, I had the honor to receive from the Ohio College of Dental Surgery a certificate of competency to practice the profession of dental surgery. In looking back over my professional history to that event, I confess to some feelings of humiliation. My after experience taught me how inadequately prepared I was for the discharge of the arduous duties I had taken upon me in the practice of my chosen profession. I do not propose to bring an accusation against my *alma mater*: her noble work in the past is well

known to the profession, and, I trust, is but the prelude to her future achievements in the advancement of dental science and medico-dental education. I believe she has kept even pace with the improvements and attainments of this progressive age, and has run well the race with her compeers ; and I trust her future career in the great work of dental education and in aiding in the elevation of professional honor and attainment, may ever be onward and upward.

In continuing my remarks before you, I will in my peculiar way proceed, first, to the consideration of the familiar and often discussed theme of professional education. In the mind of the thinking and intelligent dentist, it is of very great importance ; and there is no one subject, when fully carried out and developed, which will so favorably affect the future triumphs of the profession. Much has been spoken and written on this interesting question, and its importance is ever before us for our consideration ; and great is the work yet to be done for the elevation of the standard of dental education to that high position to which its importance entitles it to rise and occupy in the minds of all those who may aspire to a place and position in successful dentistry. The work to be done is for us to do. Those possessing a proper self-respect and a high respect for attainment in knowledge and skill, are, as far as their influence reaches, the custodians of the honor, the integrity and the triumphs of the profession ; and in this capacity there is a negative duty devolving upon all, which should be faithfully discharged, without fear or favor, by every honorable operator ; viz., an utter and entire refusal to aid or assist in any way in bringing into the profession the ignorant, the unqualified or the dishonorable.

Our positive duties are multifarious : duties to ourselves, which perhaps are not so often disregarded ; duties to our patrons, in which the inward monitors of our hearts should ever be counseled with and heeded ; duties to the profession, which should ever be active and on the alert to protect her honor and add to her attainments ; and other duties there are too tedious to mention here, which should be squarely met and honestly discharged.

Our various dental schools and colleges throughout the country, for their better government, have adopted, each for itself, a specific standard of attainment in professional literature and dental science, which they profess to require and exact of each student in attendance, before they will confer upon said student the honors of the school. This is as it should be, is wise, and, when strictly enforced, will always be productive of great good to the profession. Let us sustain our dental schools as they should be sustained. Let us interest ourselves, and exact of every one of them a strict observance of these rules when giving out their certificate of qualification for dental practice. When our profession in one united phalanx adopts similar wise and prudential rules on this subject, then will our ranks be purged of empiricism and ignorance. Let us require of every dental student approaching any one in the profession for counsel or advice, to pledge himself to pursue to the end a thorough course of preparation, until he arrive at the full measure of professional knowledge and skill that will honor the instructor and the profession, an attainment which only can do justice to a confiding public, whom it is the province of the dentist to serve with the best skill of the age in which he lives.

Legislative enactments by the several states of the Union regulating the practice of dentistry within their borders, by the passage of wisely framed and equitable laws, is regarded by many good men in the profession as a thing much to be desired. It is thought that the public who patronize the profession would thereby be protected and greatly benefited, by preventing the unqualified man from the practice of the profession until he has obtained a fixed degree of progress in dental science, before he be allowed to openly offer his services to the people. Be this as it may, I, for one, would gladly welcome the day when a certificate of qualification from a properly authorized state board of examiners, or from some legally chartered dental college, would be the only conditions on which any one would be allowed to practice the profession of dental surgery within the boundaries of each and every state in this Union. Equitable legislation, no

doubt, would greatly protect the public, and would do much to aid in dispelling the dark cloud of ignorance and charlatanism now overhanging the profession. But, as we are not now living under chartered privileges of this kind, let us arise from our lethargy, and do our duty in our present position; for there is much we can do in every time and place.

In our midst is a class of men difficult, perhaps, for us to approach, over whom we should endeavor to exercise a correct and elevating influence. I admit, there are some who are only parasites, and all we can do is to shake them off, and turn from them in disgust, as unworthy of any professional consideration whatever. There are those, however, who are honest and honorable in all their motives and designs; whose life-work, as far as they know, is the practice of the same profession we ourselves are engaged in. The elevation of such in professional knowledge should not be overlooked by the more favored and gifted. Here is a work for our associations and societies to achieve. Let us draw these men into our various dental organizations throughout the country; let us inspire them with laudable ambition to strive for further improvement of themselves; let them, through the medium of a relationship with our various dental organizations, add to their limited stock of professional knowledge until they arrive at the full stature of professional accomplishment and success. When the light of our dental associations and societies radiates more fully and clearly in this direction, not only will these men become more educated and elevated, but all who through their influence and agency are brought into the profession will with them become more enlightened and accomplished in professional knowledge and skill. Let us, as men enlisted in one common calling, adopt for our future guidance that philanthropic motto, "The accomplishment of the greatest good for the greatest number."

In professional parlance and experience it is a well-demonstrated fact, that, when any one has attained to superlative excellence as an operator in dentistry, he cannot continue to labor for the same *fees*—per filling—that inferior operators are receiving. Here is a seeming vantage-ground, where

ignorance, incompetency and retrogression take precedence, in the minds of many of our patrons, to competence, progression and skill. It is difficult for them to understand why I should charge \$5.00 for a filling, and you charge \$10.00. The unit—that is, the one filling—and the difference in the amount of money, crowd out of the mind all other ideas. The process of reasoning seems to be, that a filling is a filling, and therefore all fillings are the same and alike; or, that a dentist is a dentist, and therefore all dentists do about the same thing—except in charges. The true value of the objects to be obtained at in having teeth filled, or the ultimate success of the fillings they pay for, is lost sight of when accounts are to settle. Superiority in skill and success is thrown by them in the same heap with inferiority and failure, and, they will insist, must be paid for at the same rates. No! my brethren, this cannot be. A truly discriminating public will soon select from the common heap that which will permanently accomplish the object sought. And as superiority in skill involves great additional cost to the operator and additional time in the accomplishment of work, therefore it must be correspondingly remunerated, or, otherwise, abandon the field of professional effort. The intelligent and honest operator, having attained to a high degree of excellence in all his labors, cannot be induced to return by the way whence he came, to indulge in inferior operations for the poor privilege of bringing his labor down to the level of inferior *fees*. No! but rather let us increase our skill and progress in knowledge; let us go onward and upward in professional attainments and achievements unto perfection. And to those striving for higher improvement, let us communicate our knowledge, and inspire them with an honorable emulation, a knowledge and a zeal, that will honor both the man and the profession, in the accomplishment of many good and perfect works.

Before closing the perusal of this paper, please indulge me a little further, and allow me to call the attention of this Association to a single specialty in dental practice which has attracted my attention during the past three years; viz., the successful treatment and preservation of the vitality of exposed

dental pulps. This subject has been one of much interest, and has elicited much discussion during the score of years, and more, that I have been in the profession; and during these same years the brain and skill of many good operators have been exercised to know and do that, and that only, which would be most successful in such cases; and during these same years many thousands of teeth, that should have been saved, have been sacrificed by the profession, and their loss entailed upon suffering humanity, simply because the masses in the profession knew not how to do otherwise, in giving relief to their suffering patrons. The luster of a brighter day is now shedding its rays upon the profession. The forceps, in the majority of cases, must be laid aside for more sensible and humane treatment. All potent caustics and implements used for the destruction of living pulp-tissue of teeth must be abandoned. The agents and remedies for the preservation of the vitality and beauty of the teeth are in the possession of every honorable operator in the land, and it is only necessary that all in the profession understand their proper uses, in order to be almost universally successful in the preservation of the vitality of exposed tooth-pulps; of exposed and bleeding tooth-pulps; of exposed, bleeding and painful tooth-pulps: and if there are any other undesirable conditions associated with the exposed nerve-pulps of teeth, I include them also.

The system of treatment I now pursue in the above-described cases, differs materially in method from that which I had been pursuing for years previous to my subsequent discovery. True, I had been using the same remedies; but the principle and manner of application were different. Success with me then was not so certain, and the process was much more tedious, many cases requiring from two to five sittings before I would venture to cover the pulp, thereby consuming much valuable time. My first observations on my present mode of treatment were a surprise to myself. Not only was it a success in allaying all previous pain and suffering which many of my patients had endured, but the vitality of the pulp also proved to be successfully preserved. I now cover all exposed living pulps coming under my care for treatment at the first sitting of the

patient, regardless of any previous painful condition ; provided the pulp is not in the first stages of dissolution and sloughing. The following is my method of procedure ;

First, I cut away the thin, weak borders of the cavity, as though I were at once to proceed to fill with gold ; remove all the softened dentine I can from the cavity ; and in doing this I many times unavoidably wound the pulp. I do not regard this wounding as being detrimental to the success of the subsequent treatment ; yet I always endeavor to avoid wounding, if but for humanity's sake. At this juncture of proceedings, I usually apply rubber dam, and dry the cavity. If bleeding from wounded pulp continues, take a pellet of cotton, dip it in creosote, and apply to the bleeding surface until hemorrhage is thus arrested, and remove from the cavity all cuttings and clots. Being now ready for covering the pulp, take a glass tumbler, turn it bottom up, and mix thereon white oxide of zinc with wood creosote to the consistency of a soft jelly : this mixture I apply to the exposed pulp and *the surrounding sensitive dentine*, and, with a slight wrapping of cotton on the point of a small bur-headed instrument, gently press the mixture against the pulp, covering it perfectly but lightly, also keeping the mixture well away from the borders of the cavity. All thus far being done with care and precision, then proceed to mix, in the usual way, oxy-chloride of zinc to the consistency of cream, so that by its softness it will not displace covering of white oxide and creosote. With the second mixture, quickly fill the remainder of the cavity to the desired fulness. This completes the treatment of the pulp. The process is simple and easily executed : and if the pulp has not been painful prior to treatment, or has just been slightly exposed by recent cutting, I at once proceed to cut away enough of the oxy-chloride or outside covering to admit of the immediate insertion of a gold filling, thus completing the operation for the preservation of the tooth before allowing the patient to vacate the chair. But if, prior to the covering process, the nerve-pulp has been painful, or has been severely wounded, or very largely exposed, instead of at once finishing the operation, I dismiss the patient for some ten days or three weeks, with

instructions to return at the expiration of said time, and allow me to finish my labors for the preservation of the tooth, by the insertion of a gold covering in the way and manner described above.

I have had a large experience in this mode of treatment since discovering its efficiency, over three years ago ; therefore, I claim to know much in regard to the results thereof, all of which have been exceedingly gratifying to myself as well as many of my patrons, once suffering from severe and troublesome toothache. My purpose in calling the attention of this Association to this mode of treatment will not be fully realized until the profession has attained a success equal to my own, in the preservation of the vitality of the pulp and beauty of the teeth. Where the existence of a living exposed nerve-pulp invites to a trial of skill in its preservation, I will here take the position, that every individual in the exercise of his own choice has a right to claim and demand from the dentist whom he patronizes a complete success in the preservation of every case of exposed living nerve pulp : also, the time is at hand when he who uses any of the various potent caustics or agents, either mechanical or otherwise, (heretofore much used,) for the destruction of living tooth-pulp will be regarded as a relic of the darker days of the profession. Yea, more, I do here affirm, without fear of future controversion, that the dentist who hereafter continues the use of any drug or agent, by the use of which he destroys the living pulp-tissue of teeth committed to his care for treatment, will be guilty, not only of a crime against the profession, but also will be guilty of a crime against our patrons and our common humanity.

In regard to the mode or manner of action and effect upon the pulp-tissue by the agents used in this mode of treatment, or, rather, the rationale of their action producing these favorable results, and other questions kindred to these, I leave for future consideration and discussion.

ADDRESS.

BY J. C. ROSS, D. D. S., PRESIDENT OF THE TENNESSEE DENTAL ASSOCIATION.

Gentlemen of the Tennessee Dental Association :—On retiring from the chair as your presiding officer, allow me to congratulate you on the peace and harmony which have characterized our meeting, and to thank you for the courtesy and kindness extended to me personally, while presiding over your deliberations.

The Tennessee Dental Association was organized in July, 1867. Though we have not perhaps exerted ourselves to the extent we should, nor have we increased in numbers and influence as rapidly as we might have done, still the Society has not been without its beneficial results and its influence for good—especially in Middle Tennessee.

In a recent number of the DENTAL REGISTER is a well-written article entitled "The Dentist of the Future." The author, in entering upon the subject, throws a glance backward on the early history of dentistry in this country, and pays a just tribute to the memory of Drs. Harris, Parmely, Badger and others who were pioneers in the profession, and who did so much to inaugurate the higher tone and the more liberal sentiments which now pervade and actuate the members of the profession throughout the length and breadth of this country.

The progress of dental science is the constant theme of those who write for our dental journals ; and it is certainly a matter of just pride to those engaged in our beloved and time-honored profession, that it is advancing so rapidly.

Prof. T. O. Summers, though not of the dental profession, in a published letter, not long since, referring to the Southern Dental Association, recently convened at Baltimore, says ; "I find among them (the dentists) such a wonderful spirit of advancement and progress that it always stimulates me to larger efforts and more earnest investigation."

Such an expression of commendation from a gentleman of Prof. Summers' scientific attainments and opportunities for observation should incite us to more zeal and energy in the investigation of truth.

Young men who are now entering the dental profession have probably but little conception of the many and superior advantages which they possess over those of us who began the practice thirty-five years ago. There was not then a dental college in America. There were but few—very few—standard works, and they of foreign authorship, and there was not a single dental periodical. In a word, there was scarcely any American dental literature.

There were at that time no national or state associations, and few, if any, local societies.

The dental student who was seeking light and thirsting for knowledge was made to feel that the means for obtaining it were indeed meager.

There was not then the kindly and generous disposition manifest by the older members of the profession towards the younger, that we now see indicated. With a few honorable exceptions, it was every man for himself and every man against every other man in the profession.

How changed the aspect and condition of affairs now. Instead of a feeling of antagonism and rivalry, as heretofore, it is now one of affinity and kindly regard, when dentists meet.

We have now numerous standard works, and by our own American authors, men of first-class ability and scientific research; among them, a Dictionary of Dental Science, by that great luminary in the galaxy of worthy contributors to dental literature, Prof. C. A. Harris.

We have also nine dental colleges, at either of which the student may in a few months acquire more information than heretofore he could obtain in as many years. Besides these, we have several excellent periodicals devoted exclusively to the interests of the profession, which contain much valuable information in dental science, and serve as an advertising medium of the various and multiform inventions and appliances which are being introduced to facilitate and perfect our operations.

But, probably, there is no one thing which has contributed more largely to the improvement and advancement in the art and science of dentistry, than that of association. It is by associated effort that great and important results are produced in almost any enterprise. By free discussion and unreserved inter-communication, and comparing observation and experience with observation and experience, we can learn, one from another, that which cannot be obtained from books and other sources.

In our convocations, whether in the capacity of local societies, or as district, state or national organizations, it should be an object ever kept in view, that we meet for mutual improvement, and that we come with something to contribute to the general fund of knowledge as well as to learn—something to give as well as to receive. This is the spirit and these the sentiments that should ever actuate and influence those engaged in the same profession.

Proceedings of Societies.

PROCEEDINGS OF THE TENNESSEE DENTAL ASSOCIATION, SEVENTH ANNUAL MEETING, AT NASHVILLE, OCTOBER 22d AND 23d, 1873.

FIRST DAY, MORNING SESSION.

The Association met at the dental depot of Herman & Son, on Summer St., and was called to order at 10 o'clock by the President, Dr. J. C. Ross.

After prayer by Dr. L. C. Chisholm, the roll was called, and the following members answered to their names: J. C. Ross, S. J. Cobb, R. Russell, R. R. Freeman, W. H. Morgan, E. A. Herman and L. G. Noel, of Nashville; L. C. Chisholm, Franklin College; E. S. Chisholm, Tuscaloosa, Ala.; and Thomas Walsh, of Murfreesboro.

There were present later in the meeting, Drs. J. H. Webber, of Springfield; Alex. Hartman, of Murfreesboro; G. C. Sandusky, of Shelbyville; T. B. Legare', of Clarksville; J. H. Lassater, of Tullahoma; T. J. Holden, of Gallatin; Thomas Westerfield and J. S. King, of Nashville.

Reading of minutes of last meeting was dispensed with, and hours for meeting and adjourning fixed as follows: morning session, from 9 1-2 to 1 o'clock; afternoon session, from 2 1-2 to 5 o'clock.

The name of Dr. J. S. King, of Nashville, was proposed for membership, and a ballot upon the same resulted in his unanimous election. Dr. T. J. Holden, of Gallatin, was also elected a member of the Society.

The Committee on Arrangements and Transportation now made their reports.

The report of the Committee on Dental Chemistry was called for. The Sec'y said that he and Dr. Chisholm were the only members of that Committee present, and in his own behalf he would say that the subject had been assigned him too late in the year for him to make the investigation he had designed to make; and therefore he had not prepared a paper upon the subject. Had examined the reports of committees on this subject for many years past, and had been reluctantly brought to the conclusion that very little advancement was being made in this direction. Several theories had been put forth relative to the causes at work in the production of decay, but no positive light had been thrown upon the subject. These old questions had been recently unearthed, and discussed in dental societies; and the advocates for the alkaline, acid and parasitic hypotheses had all had their say. We need more investigation, and less talk. He spoke of the chemical abrasion met with in the mouths of rheumatic patients, as affording an interesting field for experimentation and study. Thought that Dr. R. B. Todd's opinion, that rheumatism is a disease of the blood in which there is present some abnormal chemical agent in that fluid, derived some support from these cases.

Dr. L. C. Chisholm gave it as his opinion that carbonic acid was the destructive agent at work upon the teeth. He spoke

of the work it performs in nature, in the disintegration of rocks and fertilization of soils; but referred especially to its readiness to combine with lime salts, and thought it capable of displacing the phosphoric acid of the lime phosphate of the teeth. Had not time to investigate the subject this year by experimentation, as he had hoped to do, and hence had not come prepared with a paper upon the subject. He spoke of the work which vegetables perform in the preparation of mineral substances for the building up of the animal tissues. Thought that mineral matter must be thus organized before it could be assimilated by animal tissues.

Dr. Morgan: "I know that this view has been advanced by modern physiologists; but I am not yet prepared to admit its truth. If it is true, why administer iron as a tonic? and how can that instinct which prompts animals to seek salt-springs be accounted for? This longing for the chloride of sodium is an instinct common to all animals, and they seek it wherever they can find it. Only a few plants supply it, and they grow upon the sea-coast; therefore they must get it from the inorganic world."

Dr. E. S. Chisholm: "I am a rheumatic myself, and my own mouth presents an example of such abrasion."

Dr. Freeman had a case under treatment, in which the affection could be traced to no such cause, and in which only the grinding surfaces of the two first inferior molars were involved. The patient was a young lady.

Dr. E. S. Chisholm thought the wear in many cases due to the eructation of hydrochloric acid from the stomach. Had met with it frequently in the mouths of dyspeptics.

Dr. Morgan has found these abraded teeth soft, though they may be of good color and look very hard.

Dr. Westerfield: "Is not this wear due to mechanical instead of chemical means? else why are not other surfaces attacked besides those exposed to trituration?"

Dr. King: "This view is in the main correct. It is true that the teeth are cupped out until their grinding surfaces will not come in contact in the acclusion of the jaws; but it is not necessary to preserve actual contact in order to keep up the

wear—the friction of the food against these surfaces in mastication will do that. Chemical action never produces such polished surfaces as these teeth present. Such a surface cannot be produced by the action of an acid upon any substance.”

Dr. Freeman called attention to the manner in which marble is polished by very dilute hydrochloric acid upon a flannel rag.

Dr. Russell said that chemical abrasion frequently commenced in eroded spots upon the surface.

This discussion was carried on, in a conversational way, up to time for adjournment. Adjourned to meet at 2 1-2 o'clock.

AFTENNOON SESSION.

The Society met again at 2 1-2 o'clock, minutes of morning session were read and approved. The application of J. H. Lassater, of Tullahoma, for membership, was referred to the Executive Committee. The regular order of business was suspended to hear a paper on the “Treatment of Exposed Pulp,” by Dr. J. S. King. After the reading of the paper, he presented a patient for examination, in whose mouth a number of teeth had been filled, and a number remained to be treated.

The case presented slight irregularity of the superior incisors; the left inferior second bicuspid had been extracted, and the pulps in three first molars had been devitalized. Dr. King said he wanted an expression from those present as to the best mode of regulating the front teeth, and as to the advisability of extracting the sixth year molars. These had been filled with amalgam, were largely decayed and were crumbling about the edges of the fillings. The patient was *aet.* 17. This case was examined by all present and freely discussed.

Discussion of Dr. King's paper:

Dr. Morgan called for the reading of that portion of the Constitution concerning students, after which he said he only wanted to show that the paper was in accordance with the Constitution on that point.

Thought Dr. K. too radical when he advised the entire abandonment of all articles for the destruction of the pulp. Dr. L. C. Chisholm has had aching follow the application of oxy-chloride of zinc in nearly every instance, until he tried

Dr. King's method ; but since he first used it had perfect success.

Dr. Russell has found Dr. K's. method entirely satisfactory.

Dr. E. C. Chisholm also spoke in high terms of Dr. King's method of treating exposed pulps.

(The treatment alluded to here, as stated in the paper, is briefly as follows : The cavity is prepared as for a permanent filling of gold at once. A small quantity of white oxide of zinc is mixed with wood creosote and applied to the pulp, the cavity having been previously flooded with creosote. Just enough of the mixture is used to protect the pulp from the escharotic chloride, and after its application, the cavity is filled with the oxy-chloride. The operation may be completed and permanent filling of gold be inserted at this sitting, or deferred, as the operator thinks best.)

Dr. Morgan : "I have been using oxy-chloride of zinc for capping exposed nerves for six years. Dr. King's is only a modification of the method I have employed. I always used creosote or carbolic acid, flooding the cavity before filling with the oxy-chloride of zinc. Have capped nerves successfully in this way where suppuration and partial sloughing had occurred. There are cases, however, in which I am obliged to destroy the pulp, or resort to the forceps. If there are those who have acquired such a degree of skill in the treatment of these cases as never to fail of saving the nerve alive, I am willing to accord them all praise for their superior ability. I cannot do it in every case."

Dr. L. C. Chisholm asked for Dr. King's method of treating alveolar abscess. He replied that he used no disinfectant save creosote. Fills roots with Hill's stopping. In capping pulps, where the oxy-chloride would so fill up the cavity as to render the anchorage for the gold insufficient, he plants a little bit of the gold in it, while it is yet soft, having curved ends, and to this anchors the filling.

Dr. E. S. Chisholm had used oil of cloves and creosote, equal parts ; mixing the white oxide with this, he applied to the nerve as Dr. King uses his preparation. Had been equally successful with this.

Dr. Russell has used the aromatic sulphuric acid in the treatment of alveolar abscess, with encouraging results.

Dr. King was appointed to hold a clinic at his office to-morrow morning at 8 o'clock.

The Society now adjourned.

SECOND DAY, MORNING SESSION.

After the clinic at Dr. King's office, the Association came together again at 9 o'clock.

The discussion of Dr. King's paper was resumed.

Dr. Morgan: "I would ask if it is fair to deduce from Dr. King's paper the fact that he would do away with the use of the forceps entirely?"

Dr. King: "No: That sentiment is applied only to cases in which the pulp may be restored to health. I would extract dead ulcerating roots, where nature is evidently trying to get rid of them as foreign bodies."

The application of Dr. T. B. Legare', of Clarksville, for membership, was presented. The Executive Committee gave a favorable report of him, and upon a ballot being taken he was unanimously elected to membership.

The Committee on Operative Dentistry was called for, and, in default of a report, Dr. E. S. Chisholm read a paper on "Diagnosis."

A vote of thanks was accorded Prof. J. H. McQuillen, of Philadelphia, for the donation to the Society of a plaster model of a hypertrophied tooth.

The Committee on Publication now made their report. They stated that 2,000 copies of the pamphlet, "Care of the Teeth," had been published, and presented copies to the Society for examination.

A motion for the reading of the minutes of the last annual meeting was now put to the house, and carried. The minutes were lengthy and much time was consumed in reading them.

After this came the election of officers for the ensuing year, resulting in the following choice:

President, R. Russell, Nashville; 1st Vice-President, E. S. Chisholm, Tuscaloosa, Ala.; 2d Vice-President, J. S. King, Nashville; Rec. Sec'y., A. Hartman, Murfreesboro; Cor.

Sec'y., L. G. Noel, Nashville; Treasurer, R. R. Freeman, Nashville.

Executive Committee, L. C. Chisholm, Thos. Walsh and G. C. Sandusky.

Nashville was selected as the place for next meeting. Adjourned to meet at 2 1-2 o'clock.

AFTERNOON SESSION.

The Society met according to adjournment. Dr. J. H. Lasater's application was balloted upon, resulting in his election to membership. The newly elected President was now conducted to the chair, and upon taking his seat made a few remarks relevant to the occasion. The retiring President made a short address, in which he took a periscopic glance at the profession—its progress, present status and prospects for the future.

Dr. Morgan exhibited an apparatus he had used for regulating the superior incisor teeth, after which he read a paper on "The Diseases of the Antrum."

Discussion—Dr. Cobb: "I had myself an affection of the antrum, caused by the 2d left superior molar. The tooth was diseased two years, during which time there was discharge from the nose. There is a very curious fact connected with this subject, at least so far as my observation goes, and that is that nearly all these cases occur on the left side of the face. I saw a case in which a dentist, in his efforts to remove the roots of a molar tooth, had pushed them into the antrum—the floor of which was necrosed and nearly gone. The roots were afterwards discharged through the nose. I treated the case with a mixture of carbolic acid, glycerine and tinct. iodine. The patient recovered, but the opening into the antrum healed without closure. I had another case in which there was an opening upon the exterior of the face communicating with the cavity of the antrum. This case was relieved by the extraction of a tooth."

Dr. Morgan had noticed that the left side of the face was most frequently affected with diseased antrum.

Others concurred in this observation.

Dr. L. C. Chisholm detailed a case of fibrous tumor of the antrum which came under his observation. The tumor was removed by Prof. Gross of Louisville, and weighed eleven ounces

Dr. King detailed a case in which the trouble was caused by the death of the pulp in a second superior molar. Abscess had formed and pointed near the roots of the wisdom tooth. The patient's physician extracted the wisdom tooth, but this failed to give relief. It was at this stage he saw the case. All the symptoms of diseased antrum were present. The discharge from the nose, tenderness of the parts upon pressure, pain and flow of tears from the eye. Had sharp words with the physician on account of difference of opinion about the case. Finally convinced him, extracted tooth, opened cavity of antrum, and after a little treatment the patient was dismissed, cured.

Dr. E. S. Chisholm now read a short history of a case of exfoliation of a portion of the inferior alveolar process.

Dr. S. P. Cutler, Chairman of the Committee on Microscopy, presented a paper on that subject, giving the history and microscopy of a tooth (an inferior molar) in which the points of the fangs had become connected by osseous deposit.

The report of the Committee on Mechanical Dentistry was called for. No paper on that subject.

Dr. E. C. Chisholm said he wished to retract some remarks he had made in this Society a year ago. He had just commenced to experiment with celluloid then and was pleased with it. So expressed himself. Since that time his plates had come back to him warped out of shape, and, in many instances, with the teeth ready to drop off.

Dr. Cobb said his experience with celluloid coincided exactly with that of Dr. Chisholm, and he regarded it as unfit for a base for artificial teeth. He said that rubber was the best thing that he had tried yet, and advised all present to connect themselves with the "Tennessee Dental Protective League," and help to carry on the war against Bacon. Adjourned to meet 7 1-2 o'clock at in the evening.

EVENING SESSION.

Met according to adjournment at Dr. Freeman's office.

The Committee on "Materials for Filling Teeth" was called upon for their report. No paper on that subject.

Discussion of the subject followed.

Dr. Morgan: "I think it unnecessary to discuss any other material than gold. I have almost ceased to use soft gold, and prefer it strictly cohesive, in the majority of cases. I prefer that prepared by Geo. J. Pack, and known as Eureka Filling, to anything I have yet seen. I have been using the Globe Foil, semi-cohesive and cohesive, and am much pleased with it. It is exceedingly tough and does not become harsh when annealed. I prefer Nos. ranging from 5 to 40."

Dr. Freeman: "I have tried the Globe Foil and like it very much. I prefer the semi-cohesive, and usually anneal the strips slightly before attempting to weld. Of Pack's preparations, I prefer the Crystal Pellets."

Dr. E. S. Chisholm: "I always start my fillings with soft foil. I prefer this to cutting retaining pits for the first pieces of gold. After securing a foundation in this way, I build up with cohesive gold; using serrated points until the filling is nearly completed, then changing them for smoother ones."

Dr. Cobb: "Dr. L. C. Chisholm says he is on the old foggy line—guess he wants company, and I'll go with him. I use soft gold now more than I ever did before. I used to build up and restore contour, doing all those fancy operations, but have pretty much abandoned that practice of late years. I think Abbey's Foil superior to anything I have seen. I have seen teeth preserved for years with soft foil. When we get at the truth we can go no further. If gold could be made as soft as lead and so as to stand the wear, it would be better. Cohesive gold lacks the lateral expansion which can be secured with the non-cohesive. I like the non-cohesive Globe Foil; it is certainly the toughest gold I have seen. I don't use the rubber dam much, only occasionally. The reason I am not making contour operations now is, that they will come back on me to be done over. I think amalgam will sometimes preserve a tooth. It has been said here that we need

hardly discuss any other material than gold, but I have seen teeth preserved for years with amalgam. It has a place and ought to be used sometimes."

Dr. Ross : "I like Ney's Foil, Nos. 5 and 6. Have abandoned the heavy foils. I use the mallet and rubber dam constantly."

Dr. King : "I prefer No. 4, and never use heavier than 6. As regards other materials than gold for filling teeth, if I had my choice I would abandon them all. About 7-8 of all the amalgam fillings made will fail in from 2 1-2 to 3 years."

Dr. Freeman : "Dr. Elisha Wright made contour fillings of soft gold 35 years ago. He always passed it through a flame before using, however. I am inclined to think that these old contour fillings that are being fished up from 35 or 40 years ago would turn out that way if inquiry was made. They were made of cohesive gold after all."

Dr. Russell : "You can put more gold into a tooth with a mallet than ought to go in, and where fillings are made so dense the enamel will scale off. The tooth will not stand the expansion of so dense a mass when heat is applied."

Dr. L. C. Chisholm : "Dr. Russell's statement is correct. Too much gold can be put into a tooth when condensed with mallet force. More gold can be put into a cavity in this way than by melting and casting. The enamel will scale off. I have seen this crumbling, where I was sure it was the result of the expansion of the metal."

Dr. King : "The idea Dr. Chisholm has advanced is a new one to me, and I am too incredulous to accept it as true until I have seen it demonstrated. I think if he will put it to actual test he will find he is in error."

Dr. Morgan : "The great trouble with most men in the use of cohesive gold lies in the fact that they ignore the rubber dam. They don't know how to use it."

Dr. Legare' : "I agree with Dr. Morgan in regard to the use of the rubber. I apprehend that it makes little difference whose preparation of gold you use, provided you keep it dry."

The report of the Committee on Publication was again referred to, and the price of the pamphlet, "Care of the Teeth,"

fixed at \$5 per 100 copies—\$6 with the card of the dentist printed on the back.

A committee was appointed to get up another pamphlet of like character, to be presented to the Society in manuscript at its next meeting. The committee consists of Drs. S. J. Cobb, A. Hartman, J. C. Ross, R. Russell, A. F. Claywell, L. C. Chisholm, S. P. Cutler, J. S. King and E. S. Chisholm.

The time of meeting was again changed and the Society will hereafter meet in annual session on the 4th Wednesday in June.

A vote of thanks was accorded Drs. Herman and Freeman for furnishing place of meeting. A vote of thanks was also accorded the Secretary for the manner in which he had kept the minutes.

The Society now adjourned to meet in this city on the 4th Wednesday in June, 1874. L. G. NOEL, *Rec. Sec'y.*

MAD RIVER DENTAL SOCIETY.

The Mad River Valley Dental Society held its regular semi-annual meeting in the parlors of the Phillips House, in Dayton, O., Oct. 7, 1873, commencing at 10 o'clock A. M. President Dr. G. W. Keely in the chair.

Meeting opened with prayer by Dr. A. Berry. Minutes of previous meeting read and approved. Roll called and the following members were present :

Drs. G. W. Keely, S. B. Tizzard, J. A. Stipp, J. Taft, A. Berry, H. A. Smith, R. Corson, D. Gale French, T. K. Brewster, E. F. Sample, R. H. Boal, A. J. Grosvenor, Wm. A. Pease.

The following programme was offered by the Executive Committee :

I.—What obstacles prevent a more rapid development and progress of the dental profession ? And how can they be removed ?

2.—What are the most urgent demands of the dental profession in its present position?

3.—What means can be employed for the better preservation of the teeth?

4.—What degree of importance attaches to the teeth compared with the other organs of the body?

5.—What assurance is the dentist warranted in giving his patient as to the preservation of his teeth after they are attacked by decay?

6.—What are the modifying circumstances that occasion various results from operations upon the teeth?

7.—How much is the success of filling teeth due to the mere manipulation?

On motion of Dr. T. K. Brewster, the report was received and adopted.

Subjects 1st and 2d were taken up as one, or in connection, and opened by Prof. J. Taft. He remarked that one of the obstacles that prevent a more rapid development and progress in the dental profession, was the want of *discrimination* in the selection of dental students. The qualifications that the student should possess, both natural and acquired, should be examined into. A good English education should be made one of the requirements. And that it was the duty of the dentist to ascertain whether the applicant possessed that; and, if so, have him to resolve attain or, at least, make an effort to acquire the balance. Was of the opinion that in many instances dentists were responsible for so many poor operators.

Dr. A. Berry responded with an amen. Was of the opinion that a dental student was not a very desirable feature in a well-regulated dental office. Yet, if a student was taken, it was the duty of the dentist to examine him early and late in the various branches of professional study, consisting of anatomy, physiology, chemistry and therapeutics.

Dr. G. W. Keely stated that he had taken several students, and in each and every instance had exacted of them close study and diligence. Was proud to say that his success was due to the close application of his students as well as a careful teaching on his part.

On motion, the Society adjourned to meet at 2 o'clock P. M.

AFTERNOON SESSION, 2 O'CLOCK.

Pres. Keely called the Society to order. Discussion of subjects 1st and 2d was resumed.

Dr. H. A. Smith fully concurred with Prof. Taft and others; yet thought that one great obstacle among others was, that dental chemistry was not well understood by dentists at large. In regard to dental students believed what had been said to be true. Did not think that the mass of the dental profession was sensible of the present state of affairs, from the fact that they did not mingle with the members in association.

Prof. J. Taft remarked that the majority of students who entered the profession do so with a view of making money; and in many instances were encouraged in that by dentists themselves. The good of humanity should be at heart—make that a consideration, and one of the impediments, at least, would be removed. Another obstacle was the want of appreciation of the means and agencies offered to the profession. Rejecting instruments and appliances essential in making a good operation; clinging to “things” belonging really to ancient times.

Dr. H. A. Smith thought money a good thing to have around. That the dentist should be reasonably compensated for his services. Many times when we have done our duty honestly and conscientiously, and when the bill is presented, a feeling of ungratefulness is manifested.

Dr. T. K. Brewster was of the opinion that the community at large should be educated up to a point of appreciation of a good operator. That they should be made to understand the difference between a *good dentist* and a *quack*.

Prof. J. Taft remarked, in regard to the demands of the profession, that it was the duty of dental societies and dentists generally to make an effort to raise the standing of all to a higher and more honorable position. The community demanded it. The profession, in a measure, were responsible for the men now in the profession.

Dr. H. A. Smith expressed a hope that legislation would do a great deal more for the profession, and that those who would

wish to come into it in the future would have to comply with the requirements or stay out of it.

Dr. T. K. Brewster inquired if the dental colleges were not disposed to graduate persons for money, thereby throwing upon the profession men not worthy of a title, and dragging the profession down with them.

Prof. Taft replied that colleges, or at least some of them *were not influenced by money*. That dentists were responsible, by permitting students to attend such institutions when there were colleges in the land that were deserving, and would send out men prepared to practice in the profession.

Miscellaneous :

On motion, a committee was appointed to revise the roll.

Adjourned to meet at 7 1-2 o'clock, P. M.

EVENING SESSION, 8 O'CLOCK, P. M.

Society called to order by Pres. Keely.

The committee appointed to revise the roll submitted their report.

On motion of Prof. Taft, the report was received and adopted.

The Rec. Sec. was instructed to notify members in arrears, and, unless they responded by payment of dues, their names would be stricken from the roll.

Subject 3d was announced.

Prof. J. Taft stated that the object of introducing the subject in this form was to elicit something more than that already known. That it was the duty of the dentist to instruct his patients, under all circumstances, to cleanse the mouth and teeth, and to *keep* them thoroughly cleansed. By so doing, it would assist them in maintaining their general health. In fact, it was the duty of the dentist to impress upon every patient the importance of saving the natural teeth. It should be presented to them in its various phases as an essential to health, beauty and comfort. Pecuniary circumstances should not indicate when and where to instruct them ; experience had taught him in many instances that the poor servant-girl had the highest appreciation of her teeth, and of the labor performed upon them.

Dr. H. A. Smith reported a case in which a lady had suffered severely during gestation. The demands made upon her system had been of such a character as to cause considerable uneasiness in and about the teeth. Explained to her the cause, and prescribed syrup of lacto-phosphate of lime. Would report progress in the future.

Dr. Pease thought that a crowded condition of the teeth would cause trouble during gestation. Used the burr or separating file to obtain space. Thought that Dr. Arthur's method of treatment should be adopted.

Dr. J. A. Stipp asked for information. Could not understand how it was that we recommended food containing an abundance of the phosphates, to assist nature in the *more perfect* development of natural teeth, and then use the burr or separating file to cut away enamel, exposing the dentine, subjecting it to the action of the fluids of the mouth. To him, it looked as though we were tearing down that which we were trying to build up.

Dr. D. G. French fully concurred with Dr. Stipp in regard to Dr. Arthur's treatment. Thought if teeth were *well* filled, and proper care taken of them, by frequent brushing, much more would be accomplished. Objected seriously to the burr and file.

Dr. R. H. Boal experiences the same difficulty in the teeth of mothers during gestation. Found the teeth of the child in after years to occasion trouble. Thought that Dr. Arthur's method of treatment would produce evil results.

Prof. J. Taft thought that Dr. Arthur had made quite a mistake, in not making some discrimination. That it had a tendency to lead many into error. As a rule it was not advisable to pursue that course of treatment.

Dr. G. W. Keely spoke of the importance of saving the natural teeth. Urged the frequent use of a good brush, and exercising care in keeping the teeth clean. Does not think Dr. Arthur intended that we should cut away as heroically as suggested in his work. Cuts away only when it seems to be for the best.

Dr. A. Berry thought it to be a retrograde movement, to go back to the old way of cutting and filing away tooth substance. Better try and keep it, as decay takes it away fast enough.

Miscellaneous :

Pres. Keely appointed the following Executive Committee for the ensuing year : Drs. H. A. Smith, S. B. Tizzard and R. H. Boal.

Essayists : Drs. R. H. Boal, S. B. Tizzard and A. J. Grosvenor.

The hour of 12 o'clock having arrived, the Society adjourned to meet in Dayton, O., on the first Tuesday in April, 1874.

J. A. STIPP,
Rec. Sec.,

G. W. KEELY,
President.

Editorial.

HEALTH OF THE DENTIST.

At the recent meeting of the Michigan State Dental Society, the health of the dentist was considered at some length ; the great importance to all concerned of securing and maintaining the best possible state of health for the dentist, was fully conceded by all. The character of the discussion referred to gave evidence of a growing appreciation in this direction. There is further indication of progress in this matter, in the fact that there is far better health of the workers of the profession now than ten years ago. This is doubtless the result of a better apprehension of, and fuller compliance with, hygienic laws—those regulations established for our well-being—the violation or even ignoring of which works disease, suffering and death. During the last fifteen years dental practice has become more laborious and irksome than formerly, due in some measure to

thefact that there is a far higher appreciation of the teeth by the public, and consequently a more urgent demand for their preservation ; and, in addition to this, dental practice now occupies a far more extended field than formerly. Operations are performed now by the profession generally that are very exhausting to the energies and strength of the dentist, that fifteen years ago were scarcely conceived of, or at least attempted. These more difficult operations bring with them a sense of additional responsibility, and in many instances a nervous tension that is very oppressive in its influence. Those who have attained much reputation for thoroughness and efficiency are usually very fully occupied, so much so that they are oftentimes broken down before they are aware of it.

Now, with the overworked dentist there is undue confinement or want of proper exercise ; inhalation of bad air ; offensive odors ; constrained and unnatural position of the body, long continued ; protracted mental and physical concentration and occupation ; a want of mental diversion ; nervous irritation ; loss of sleep ; and defective nutrition. The injurious results from each of these will be exhibited to a far greater extent by neglect. Of all men the dentist should most scrupulously regard and obey the laws of hygiene.

The dentist who is fully occupied is liable to suffer greatly from confinement or want of proper physical exercise. The demands of suffering humanity are constantly upon him, and these are of such a character as to call out his strictest attention ; and so, while caring for others, he forgets himself till nature cries out with sheer exhaustion.

The dentist who confines himself to his office from nine to twelve hours per day, working incessantly at his chair, without rest or change of physical exercise, should have from one to three hours appropriate exercise in the open air and sunshine every day. The character and duration of the exercise should be modified by various circumstances : such as the health and strength of the person ; intensity of his work while occupied ; the structure, location and condition of his office, etc., etc. Whilst responsibility does not rest upon the dentist as upon the physician, his physical labor is far more irksome and

exhaustive ; indeed we can hardly conceive of any occupation that will draw more largely upon the physical energies than dental practice, if closely followed. We shall, perhaps, at another time consider some other points bearing upon this subject.

CLOSE OF THE VOLUME.

This number closes the twenty-seventh volume of the *DENTAL REGISTER*. What it has been those who have read it know. What influence in the aggregate it may have exercised for good none perhaps can tell. It, in common with others, has received criticisms, sharp, keen and many, and, on the other hand, approval, commendation and assistance, the latter coming chiefly from those who are its most careful readers and well-wishers ; the former from those who only glance at it enough to find fault, and who do nothing for its improvement. Now we would not find fault with this latter class¹; if this is their mission, they should by all means fulfill it ; and we have no doubt that editorially we need all this and more for our improvement, and ability to better serve the profession, and through it the people. Our ardent desire is to be the means of the greatest good to the largest number, rather than to live a life of self-interest and ease, and attract the largest share of laudatory encomiums.

We often do things that our best friends disapprove, even when going by our best light and judgment ; but then we must act by these, the suggestions and opinions of friends to the contrary notwithstanding ; and we sometimes receive a warm commendation for the performance of a plain, simple duty.

The *REGISTER* has no special pleading or bidding for friends, seeks to make no antagonists, and has no time or disposition to fight those who choose to place themselves in hostile attitude. Now we trust the future course of the *REGISTER* may be inferred from the above.

TRANSACTIONS OF THE IOWA STATE DENTAL SOCIETY.

The eleventh annual meeting of this Society was held at Davenport, May 13—16, 1873.

We have received the Volume of Transactions, which contains much that is of great interest to the profession. The papers and discussions are of unusual interest.

We think it very desirable that every state society should publish its transactions in some permanent form. This is important, that the members may know, and that others may know, what progress is being made. It also serves as a stimulus to the members to press on to higher attainments; it also serve as a stimulus to other societies to do likewise.

Every progressive member of the profession should have copies of all these works.

This volume may be obtained by addressing Dr. A. V. Eaton, Anamosa, Iowa, who is the Secretary of the Society.

The next meeting will be held in Dubuque on the third Tuesday of May, 1874.

TRANSACTIONS OF THE CALIFORNIA STATE SOCIETY.

We have before us this Volume of Proceedings, and a very interesting and instructive one it is, too. We cannot here enter into a special resume' of it, but will say that it is a volume that ought to be in the hands of every dentist in the country. The volumes of transactions ought to be and usually are the culmination and essence of dental science and practice, valuable to both practitioner and student. The views of the best men in the profession on all practical points are given in these volumes. This volume contains the papers, essays and proceedings of the annual meetings of the California State Dental Society for the years 1870—71—72 and 1873. All of which make a very valuable volume indeed, and we would advise every one to procure a copy and give it a thorough perusal.

Address Dr. N. J. Plomteaux, Woodland, Cal.

TRANSACTIONS OF THE ILLINOIS STATE DENTAL SOCIETY.

The ninth annual meeting of the Illinois State Dental Society was held at Rock Island, May 13, 1873. Its proceedings, essays and discussions were promptly published, and have been at hand some time. This was the first state society that published its proceedings in a volume of transactions. This it has done for three years past.

The promptness and perfection with which the work has been done exhibits an energy and taste worthy of imitation. Some of the strongest men in the profession, in this country at least, are in Illinois and are members of this body. The correctness of this statement is quite apparent upon the perusal of this volume.

Its pages are rich—full of good things; and we suggest to every dentist who feels his need of more knowledge to add it to his library, which he can do by addressing Dr. E. R. E. Koch, of Chicago, Secretary of the Society.

THE TABLE OF SOCIETIES.

In the presentation of the list of the dental societies in the United States, in each No. of the REGISTER, we desire it as full and complete as possible, and this it is impossible for us to do without the co-operation of the officers of the respective societies; either the recording or corresponding secretary. Now the list is really a standing card for all societies mentioned in it, and it is desirable on the part of all, and especially for particular societies, that they be correctly presented.

We propose in the next number to give, in addition to what is now presented, the number of active members belonging to each society, if the officers will promptly furnish them to us. We shall be glad to have a complete list of the names of the active members of every society in the country; this we desire as an aid in making up a report on dental associations for the next American Dental Association. We hope they may be furnished promptly by every society.

Special Notices.

FOR SALE.

We have for sale Dental Office and Practice. Office contains

- 1 Writing-desk and book-case,
- 1 Marble top center-table,
- 1 Large gilt mirror,
- 6 Large oil paintings,
- 6 Cane-bottom office chairs.
- 1 Parlor stove and Brussels carpet,
- 1 Cabinet wash-stand,
- 1 Archer chair, footstool and spittoon,
- 1 Operating case and bracket,
- 1 Lounge, and other articles too numerous to mention.

Location, good town in Indiana. Will sell for \$300, one-half cash, balance in three and six months. SPENCER & MOORE.

Gold, Silver, and Platinum Scraps.

We are now paying the following prices.

Clean Gold Plate Scraps	-	-	-	-	75cts. per Dwt.
" Silver	"	-	-	-	6cts. " "
" Platinum	"	-	-	-	25cts. " "
" Gold Foil	"	-	-	-	\$1.05 " "

SPENCER & MOORE.

CARPENTER'S ENGINE FOR SALE.

We have on hand one of the Carpenter's Engines, has been used about one year, which we will sell very cheap. Cost one hundred and ten dollars. Will sell for \$35.00. It is in good order.

SPENCER & MOORE.

MORRISON'S Chairs and Brackets constantly on hand.

SPENCER & MOORE.

Special Notices.

SPENCER & MOORE'S IMPROVED SOFT GOLD
PELLETS.

What they say about in :

"Your gold is splendid, no discount on it, welds splendidly
—finishes up beautifully. Success to you.

J. N. CUSTER.

Westerville, O., Nov. 16, 1873."

ANOTHER WITNESS.

Madison, Ind., Nov. 11, 1873.

"SPENCER & MOORE :

Gents:—Your prepared pellets of improved soft foil are a
decided success. It is easy to manipulate, and can be thoroughly
condensed without crumbling brittle or delicate margins. I
regard it superior in many respects to any similar preparations
of gold I have tried, in fact, I am delighted with it.

Truly yours,

W. T. WALLS."

OUR NEW CABINET CASE.

We desire to call especial attention to the illustrated advertisement of this case in our advertising department of this No. of the REGISTER. It is a neat, stylish and convenient case at a very moderate price.

SPENCER & MOORE.

OUR "SHERWOOD" INSTRUMENTS.

We are glad to be able to say that we are now prepared, owing to enlargement of shop and employment of three more hands, to fill orders for our *Forceps, Pluggers, Excavators, Bur Drills and Engine Instruments*.

SPENCER & MOORE.

This book must be returned to
the Dental Library by the last
date stamped below. It may
be renewed if there is no
reservation for it.

--	--

270-7-60

H.R. Abbott

Mem. Lib.

Author

1873

The Dental Register, Vol. XXVII.

Title

NAME OF BORROWER.

Harry R. Abbott
Memorial Library

V 27 (1873)

FACULTY OF DENTISTRY

TORONTO

